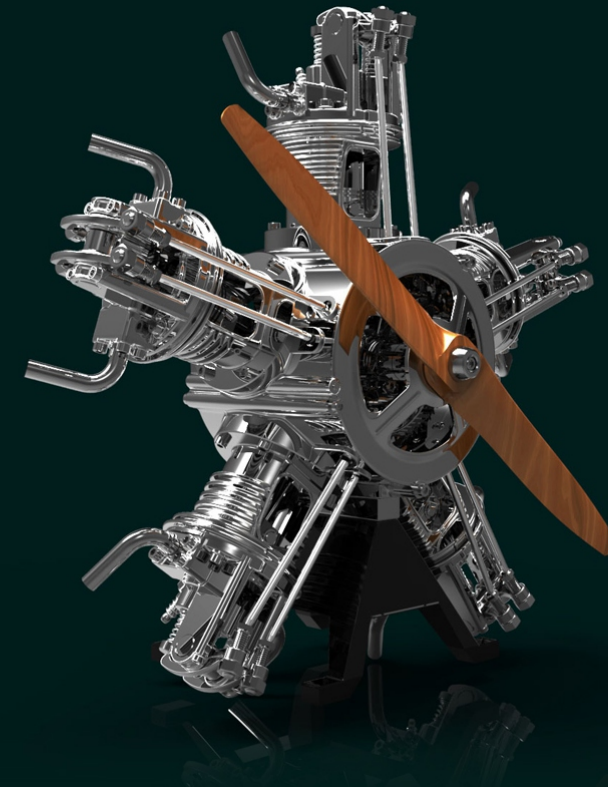


传承 • 探索 • 创新
EDUCATIONAL • ORIGINAL DESIGN • PATENTED



金属机器
Metal machinery

组装模型
Assembly model



	公司 广州市土星文化发展有限公司 Company Guangzhou Teching Culture Development Co., Ltd		
	地址 广州市黄埔区宏明路宝盛大厦 Address Baosheng building, Hongming Road, Huangpu District, Guangzhou City, China.		
	热线电话 0086-13924277386 4001-020-019 Service Tel		
	售后邮箱 sales@techingedu.com.cn After-sales email		
网址 http://www.techingedu.com website			

版本 (Version) : DM105-01

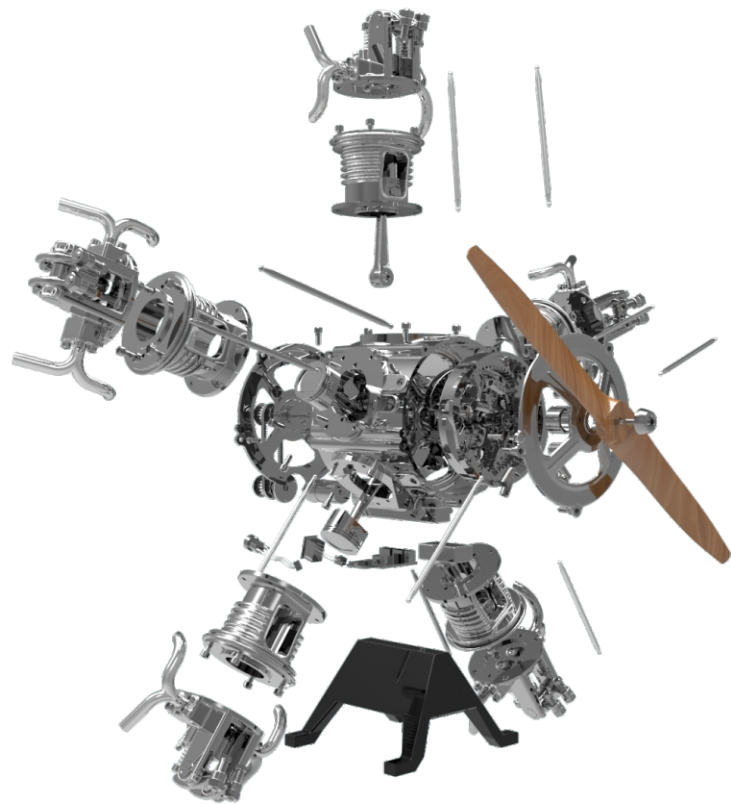
星型五缸发动机
Five-cylinder radial engine
型号 (MODEL) : DM105

Assembly Difficulty
难度系数 ★★★★★

结构特点:

Structural features:

1. 五气缸布置结构
Single cylinder structure
2. 凸轮顶置式气门控制结构
Overhead camshaft valve control structure
3. 凸轮同步带传动机构
Synchronous cam driving mode
4. 传统曲轴连杆机构
Traditional crankshaft connecting rod system
5. 进排气门单门结构
Single intake and exhaust valves structure
6. 零件数量超过250个
The number of parts exceeds 120



真模型
Real Model

真世界
Real World

产品基本信息

一、产品参数

产品名称：星型五缸发动机

产品型号：DM105

主要材料：阳极氧化铝+不锈钢

充电电压：直流5V

电池容量：450mAh

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

◆ 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；

◆ 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；

◆ 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；

◆ 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

◆ 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；

◆ 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；

◆ 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；

◆ 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；

◆ 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；

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；

◆ 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；

◆ 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；

◆ 如果零件有丢失，可向我公司咨询或采购（土星官方网店）；

◆ 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；

◆ 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，请更换电池或拆解零件进行清洗。

注意事项

一、安全须知

◆ 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；

◆ 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；

◆ 本模型适合14岁以上的用户使用，相关安全事项仔细阅读本说明提示；

◆ 严禁让儿童或宠物吞咬本产品或其备件，以免造其伤害；

◆ 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；

◆ 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；

◆ 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；

◆ 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；

◆ 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；

◆ 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；

◆ 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；

◆ 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

◆ 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；

◆ 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；

◆ 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；

◆ 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；

- ◆ 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；

- ◆ 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；

- ◆ 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；

- ◆ 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；

- ◆ 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

- ◆ 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；

- ◆ 本产品适合于14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；

- ◆ 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；

- ◆ 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，敬请谅解。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；

- ◆ 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；

- ◆ 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；

- ◆ 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 Data

Product name: Single-cylinder engine (overhead camshaft type)

Product model: DM105

Main materials: Anodic aluminum oxide + stainless steel

Charging voltage: DC 5V

Battery capacity: 450mAh

Assembly difficulty: Level V

Product standards: GB/T9254-2008

GB/T17626.2-2006

II. Product description

- ◆ Teching Craftsman series of products are metal structure assembly models. Its primary material is aluminum alloy with anodized surface, and the product structure is a real industrial structure;

- ◆ Assemble parts using various tools with the installation procedures and methods substantially compliant with practical industrial requirements;

- ◆ 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";

- ◆ Learn about various industrial machines, and study various industrial structures to improve user's capability of research and innovation.

III. Assembly Requirements

- ◆ Be sure to read the Basics of Standard Parts Assembly carefully to master basic standard parts assembly procedure and the usage of tools before assembly;

- ◆ The table shall be kept tidy and clean during assembly to prevent parts being lost or incorrectly assembled. Assemble parts in a rigorous and orderly fashion, view the diagrams carefully, and avoid incorrect assembly;

- ◆ Pay attention to the prompt text in instruction manual, carefully view the part installation orientation, and avoid incorrect comprehension. Pay attention to the requirements on testing;

- ◆ Lubricating oil shall be applied to friction areas to the greatest extent to prevent jamming during operation. Fastening screws must be thoroughly mounted to prevent looseness of parts;

- ◆ If you have any doubt when adjusting any assembly clearance or tightness after the completion of assembly, please refer to our website or WeChat public account;

- ◆ Users are encouraged to optimize the parts using material removing tools like files and sand paper with adult care where the personal safety is guaranteed;

- ◆ Users are encouraged to perform part modification or overall modification of model without potential safety hazard so as to develop modification capability as soon as possible;
- ◆ The user may disassemble this model and put it in the package again according to the parts list attached hereto;
- ◆ If any part is lost, please inquire of or purchase it from us (Teching official online store);
- ◆ The model structure is subject to continual improvement. If the real object differs from the instruction manual, please refer to our latest assembly information.
- ◆ Once the product fails to function due to battery failure, lubricating oil shortage or dust accumulation in product gaps because it is left unused for long, it's advisable to change the battery or disassemble and clean its parts.

Precautions

I. Safety Instruction

- ◆ Please read this manual carefully so that you are in a position to use this product correctly and safely;
- ◆ This series of products are industrial-level metal models, so its assembly and use requires certain safety awareness; improvement of safety awareness is also a function of the model;
- ◆ This model is suitable for users aged 14 and over. Please read this manual carefully for relevant safety information;
- ◆ Strictly prohibit children or pets swallowing or biting this product or its spare parts, since this may cause injury/damage;
- ◆ Use assembly tools rationally, assemble the parts in strict conformity with the instruction manual, and avoid forcible handling to avoid scratches; keep sharp points of tools or parts away from the eyes to avoid contusions;

- ◆ This model is made up of metallic parts mainly, and has a certain level of hardness and a certain weight; please place it properly to avoid bodily injuries; Protect the products and accessories against intense shock and vibration so as to avoid personal injury and product damage;
- ◆ During mechanical movement, do not put a finger or any other part of the body within the movement range to avoid contusions;
- ◆ Wire connectors must be connected according to the marks specified in the instruction manual to avoid short-circuit or failure arising from wrong connection;
- ◆ Charge, discharge and place the battery as required; it is advised to replace the battery when it has not been used for 3 months or more;
- ◆ Do not prevent any part from running forcibly in any form; to do this, turn off the power directly;
- ◆ To refit this model, please pay attention to the relevant part parameters, and avoid using any high-power electric part or device that may result in an accident.
- ◆ Please use parts of this product properly as per instruction manual. Don't use them for other purposes.

II. Battery and charging precautions

- ◆ This product is delivered with dedicated charging cable. Users shall use their own power adapters; output DC voltage: 5V; output DC current $\geq 1000\text{mA}$;
- ◆ 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;
- ◆ Don't put the battery in fire or have it exposed to sunlight, fire or similar excessively hot environment, since this may lead to leakage, excessively high temperature, bursting or ignition of battery;
- ◆ If improper change of battery may cause explosion, the battery must be replaced with one of identical or equivalent type;

- ◆ Never disassemble, squeeze, heat and set fire to the lithium battery delivered with this product, and never touch and pry the battery using any sharp object or screwdriver, etc., since this may cause the battery to ignite or burn;
- ◆ In the case of excessively high temperature, discoloration, bulging, leakage and other anomalies during the use, charging or keeping of battery, please take it out of service and change it with a new one to avoid safety problem;
- ◆ Since the battery temperature rises when it's being charged, please don't have the battery to come into contact with inflammables (e.g. bedside, clothing and books, etc.) since this may result in a fire;
- ◆ Please don't charge the battery in a moist space with high temperature; the temperature is recommended to be $0\sim 35^{\circ}\text{C}$, and the humidity shall not exceed 65%; the design max. ambient temperature for using the product is 45°C ;
- ◆ To alleviate the risk of electric shock, children are not allowed to use the product without the help of their parents or other custodians.

III. Product Declaration

- ◆ Please carefully read and observe various instructions and warnings in this manual before using this product. Our company shall not be held responsible for any consequence of failure to properly use this product or observe related operating instructions;
- ◆ This product is suitable for users aged 14 and over. Our company shall not be held responsible for any safety problem arising from the use of this product by too young users or users who are not familiar with relevant safety requirements;
- ◆ As a model in industrial structure, this product is designed exclusively for learning and experience. Do not use this product for other purposes; otherwise, we will assume no responsibility for any consequence thereof;

- ◆ We have been improving the design and operation features of our product, so separate notice will not be given for slight difference between instruction manual and actual product. Hence, any claim for compensation filed based on the data, pictures or text of this instruction manual will be rejected;
- ◆ For constant improvement and sustainable development, our company reserves the right to modify and improve any product detail given in this manual without prior notice;
- ◆ The pictures in instruction manual guide users for operation, and are thus for indication only; the real product shall prevail;
- ◆ Our company and its suppliers shall not be held responsible for any special, incidental, collateral or indirect loss in any case to the greatest extent the law permits, regardless of its cause;
- ◆ Please keep this manual properly since it contains important information.

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二、活塞发动机基本原理 / P18

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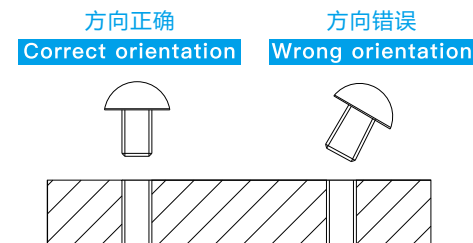
Product parts list / p19-23

标准件组装基础知识 Basic knowledge of standard parts assembly

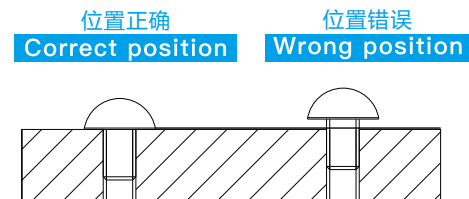
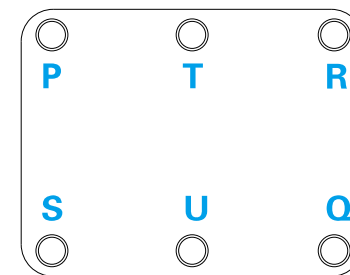
1、螺丝安装 Screw installation

(3) 螺丝安装顺序 Screw installation sequence

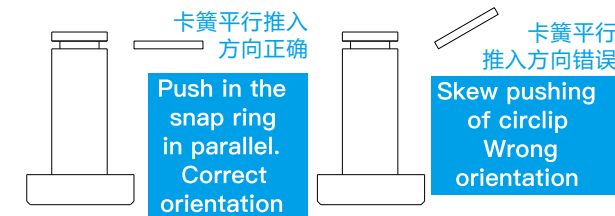
(1) 螺丝安装方向 Screw installation direction



(2) 螺丝拧紧深度 Screw tightening depth

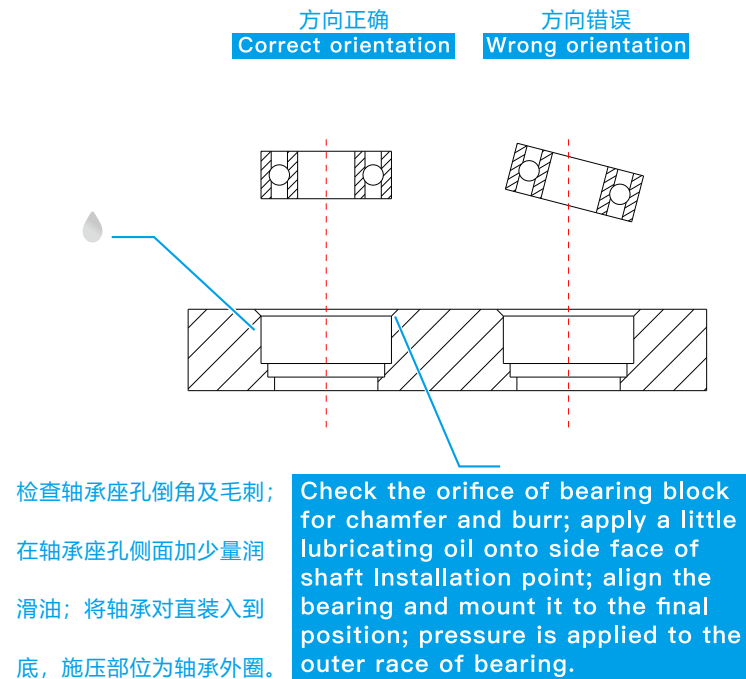
按照编号顺序，对角安装螺丝
Mount the screws diagonally
in order of number

2、卡簧安装方法 Circlip installation method

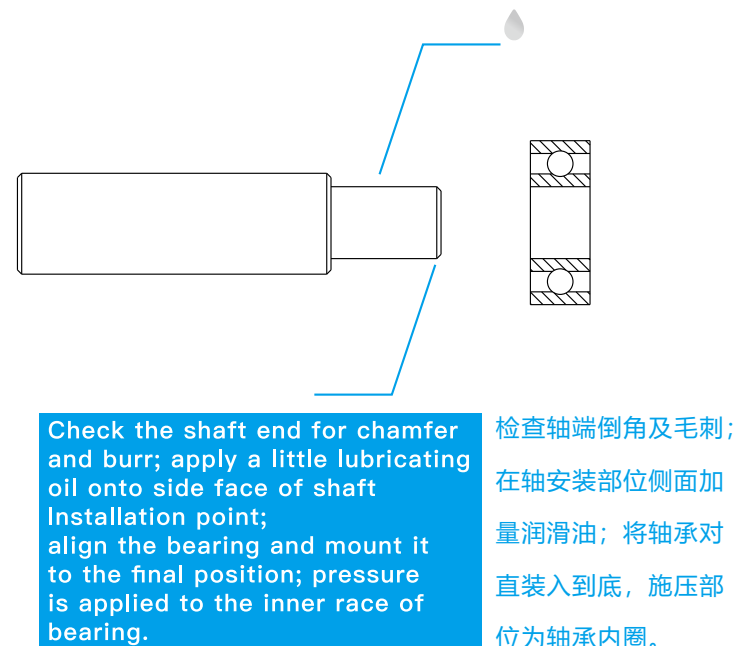


3、轴承安装 Bearing installation

(1) 轴承装入轴承座孔 Insert the bearing into the bearing housing



(2) 轴承装入轴 Bearing into the shaft



重要提示：组装前，先找到瓶装润滑油，务必在所有润滑油标识处涂上足够的润滑油，否则机器容易卡死。

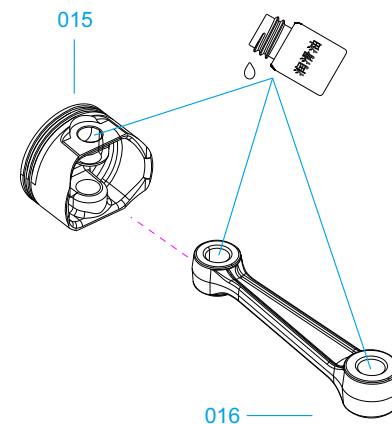
Important note: before assembly, find the bottled lubricating oil first, and be sure to apply enough lubricating oil on all lubricating oil marks, otherwise the machine is easy to get stuck.



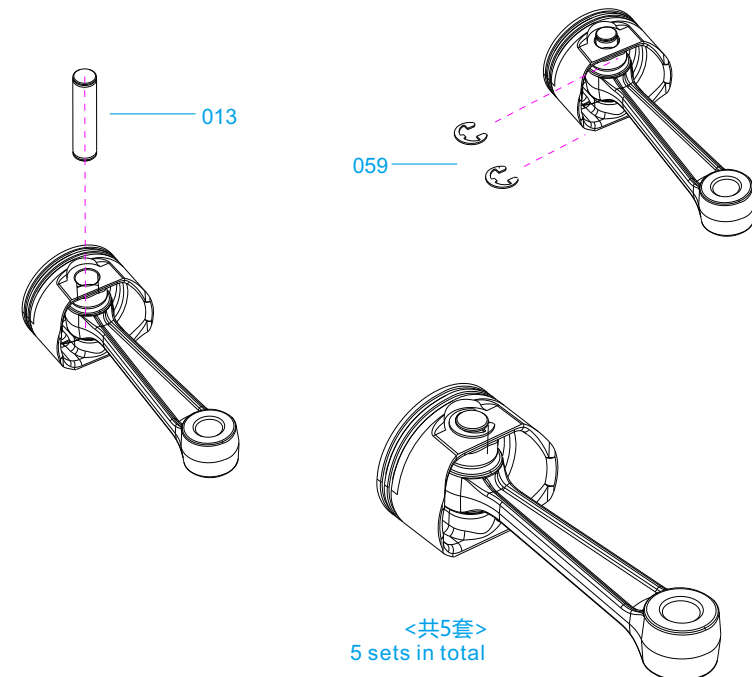
一、组装说明 Assembly instructions

1. 活塞、星五从动连杆对接 Butt joint of piston and five star driven connecting rod

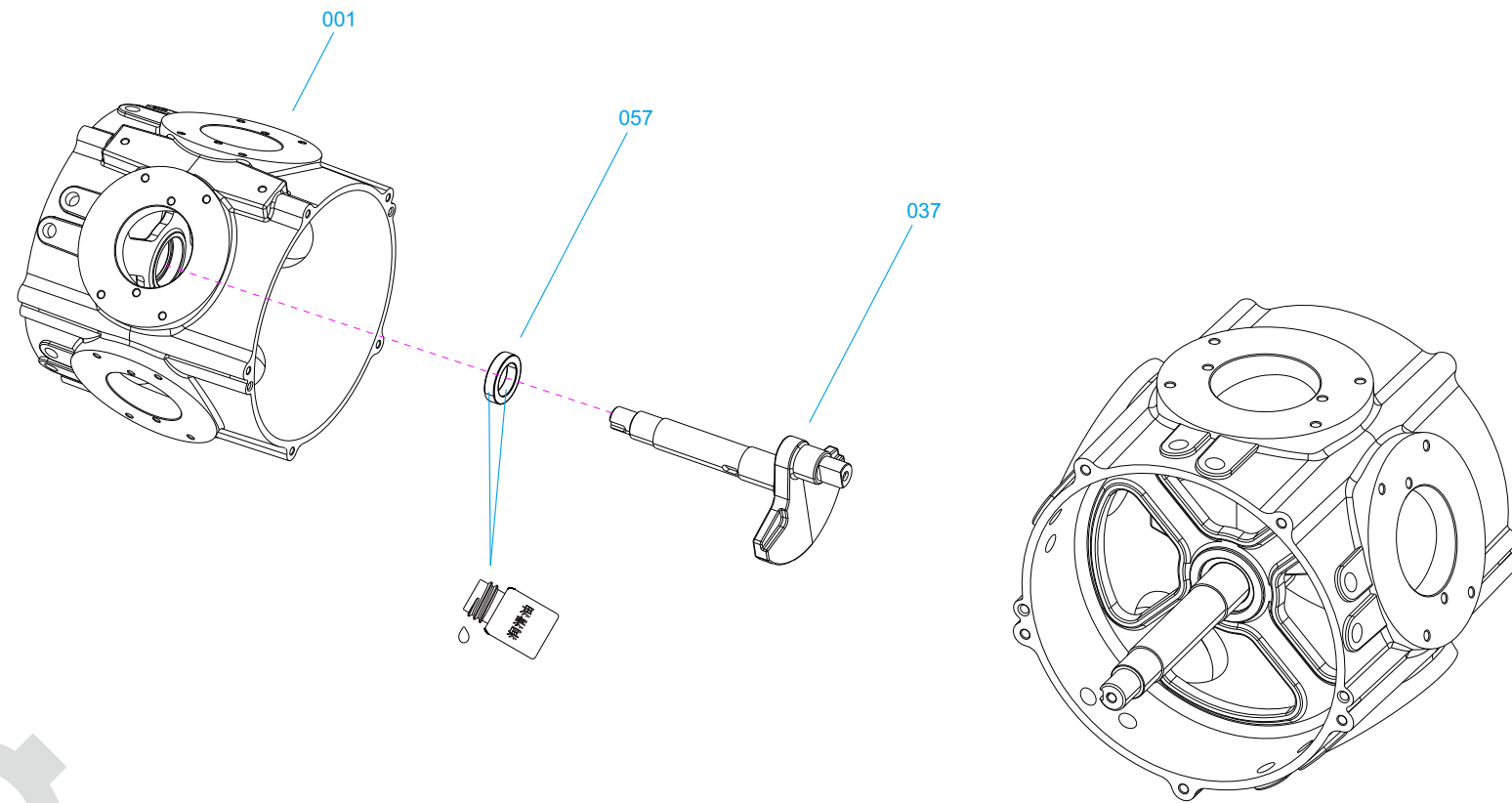
1.1 星五从动连杆机构插活塞销 Connection between piston and connecting rod



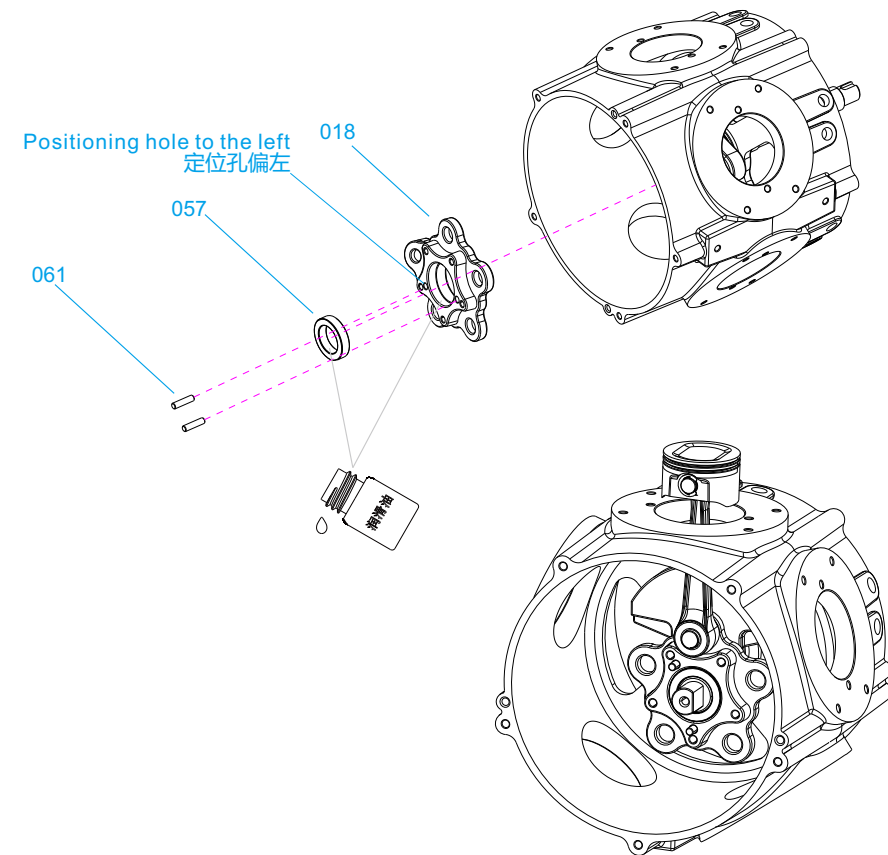
1.2 星五从动连杆机构卡簧紧固 Fastening of snap ring of star five driven linkage



2. 星五曲轴箱和星五前曲轴安装 Installation of star five crankcase and star five front crankshaft



3. 星五从动连杆块安装 Installation of star five driven link block



3.1 星五从动连杆机构（一组）安装 Installation of star five driven linkage mechanism (one group)

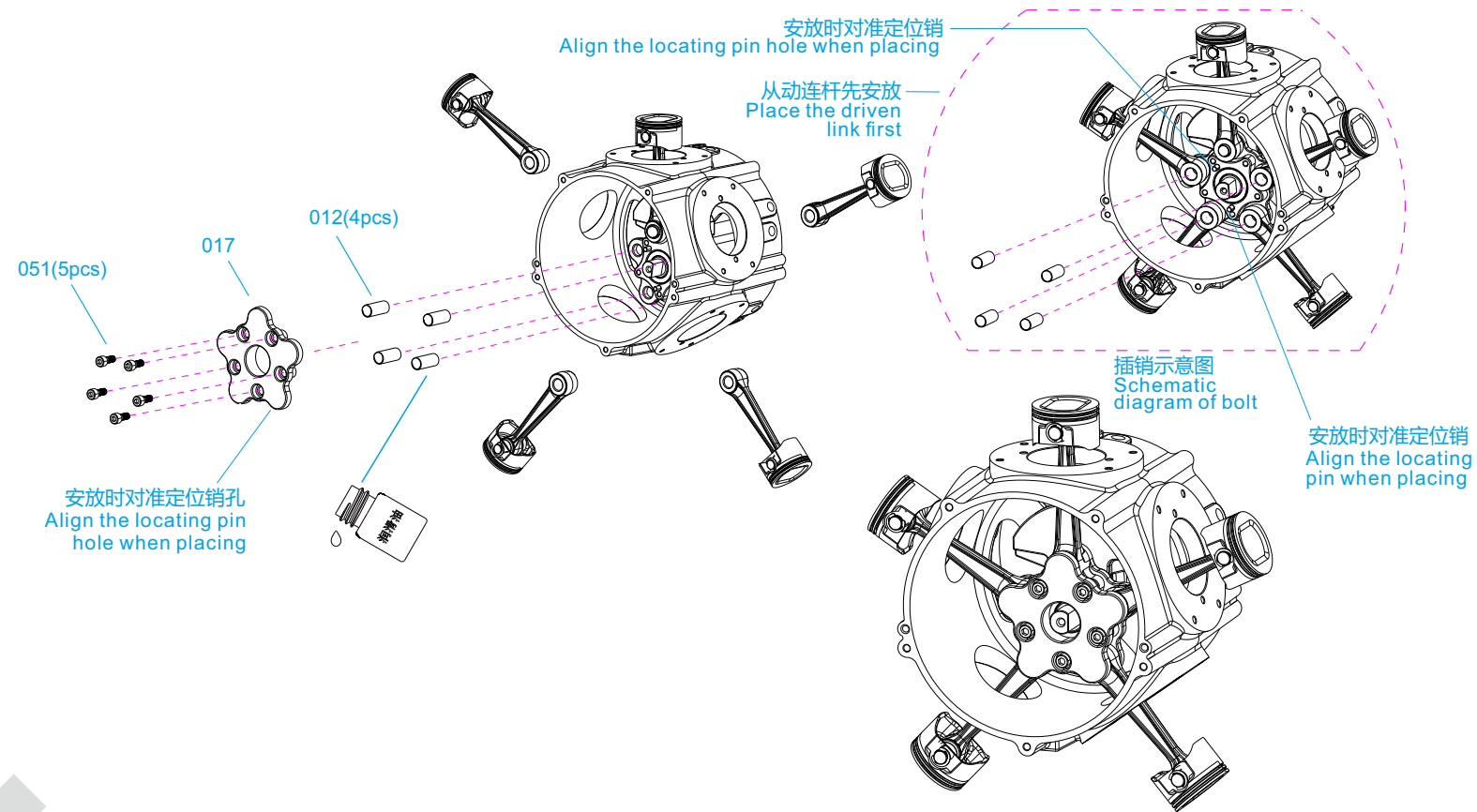
第一步：
插进对准孔位
Step 1:
Insert into the alignment hole

定位销偏左
Locating pin to the left

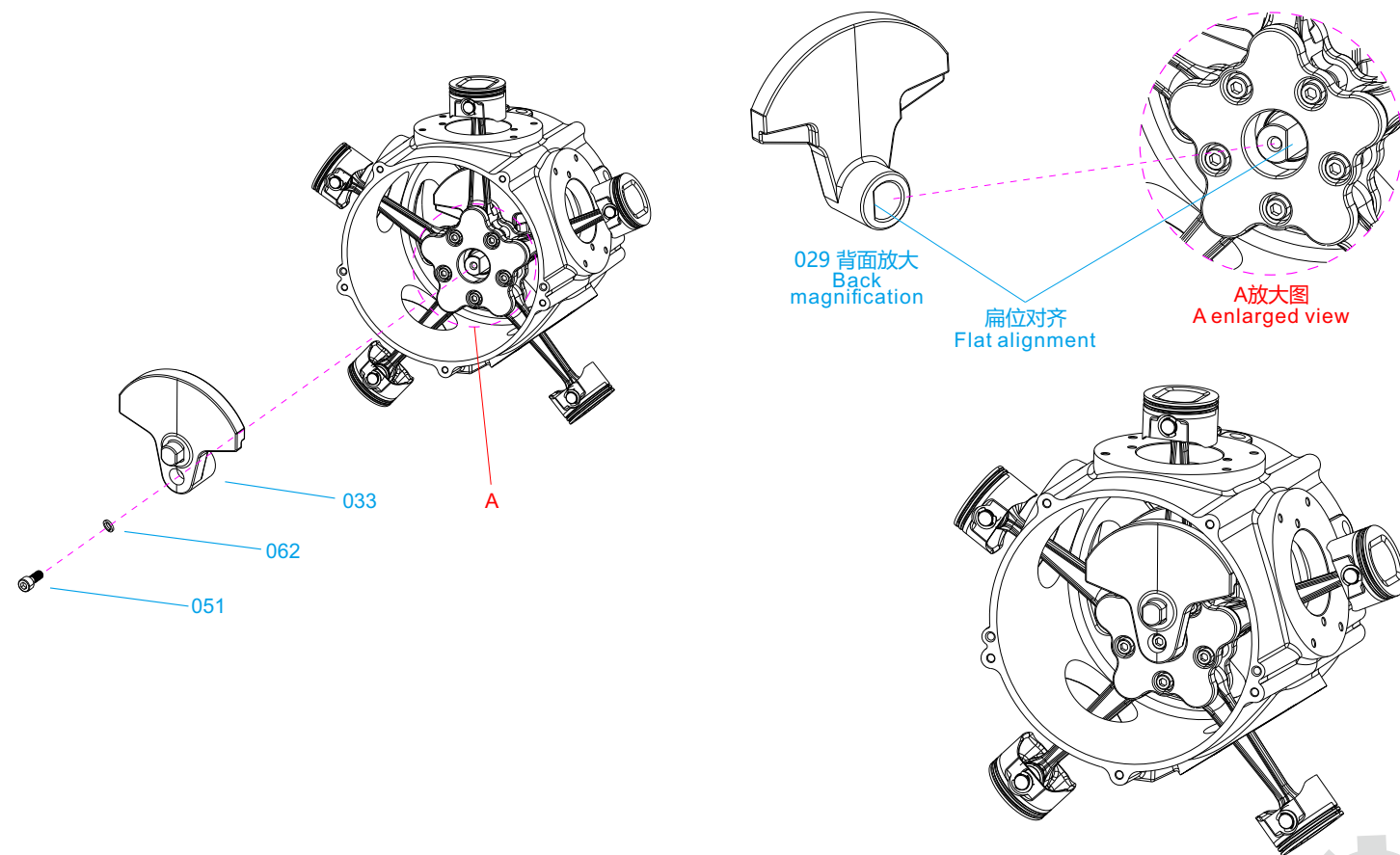
第二步：
销插孔位对准
Step 2:
Pin socket alignment

示意图
Sketch Map

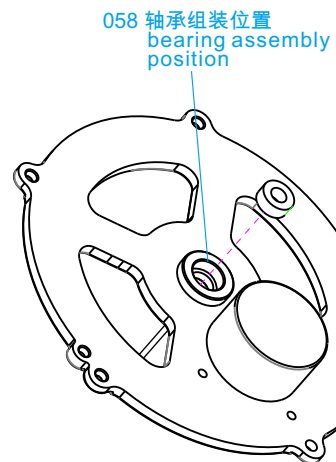
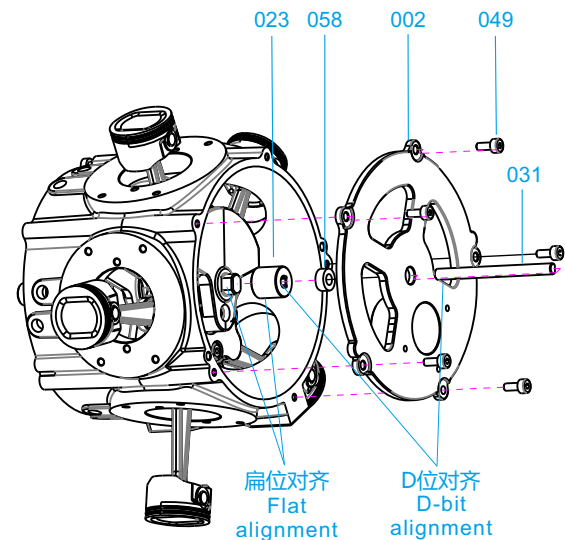
3.2 星五从动连杆机构（四组）安装
Installation of star five driven linkage (four groups)



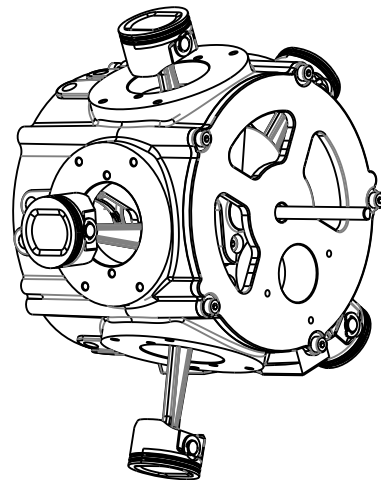
4. 星五后曲轴安装
Star V rear crankshaft installation



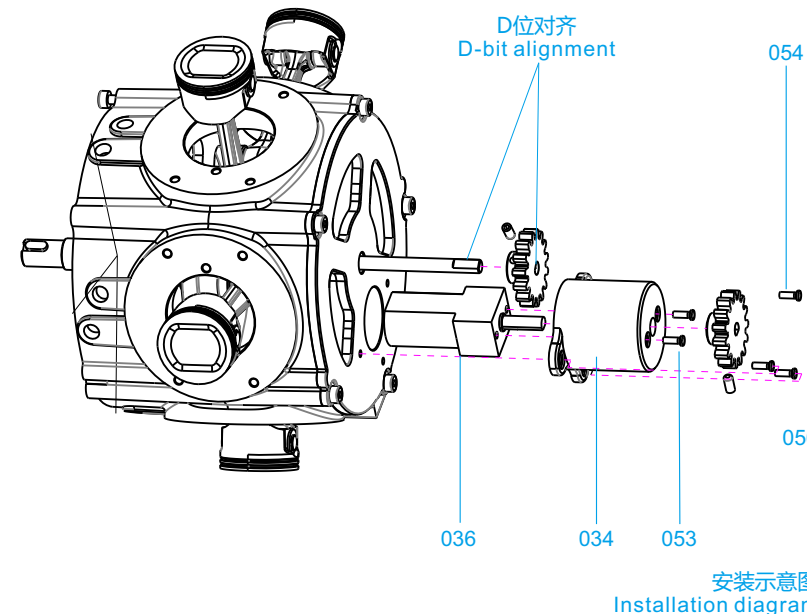
5. 星五曲轴箱后盖安装
Installation of five-star crankcase rear cover



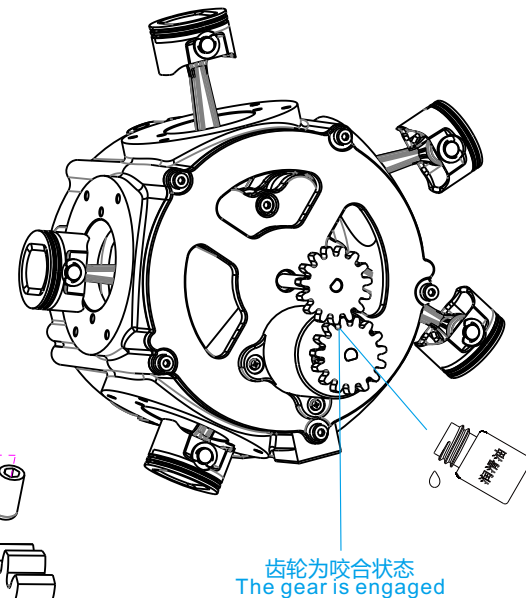
组装后示意图
Schematic diagram after assembly



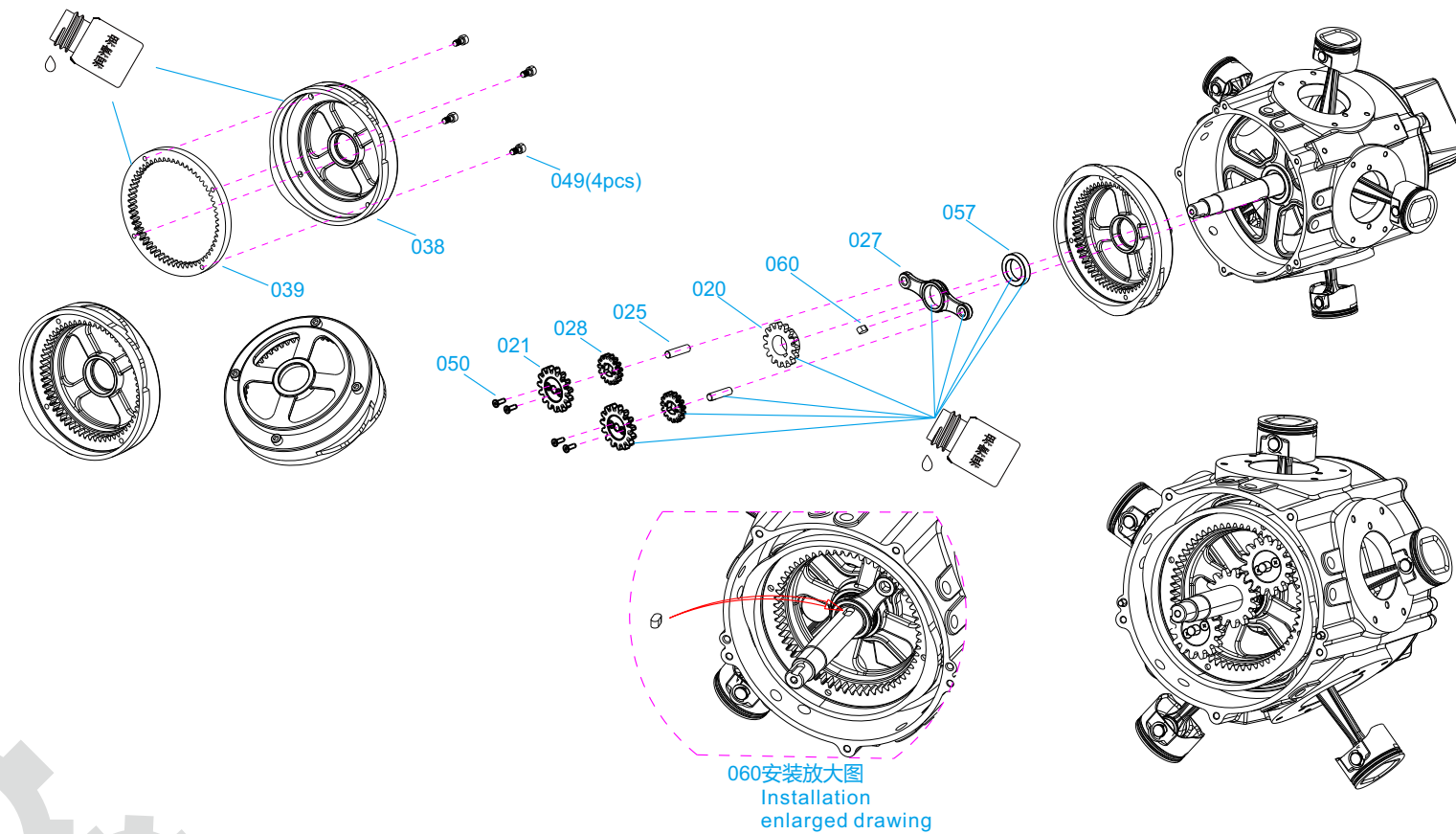
6. 星五曲轴箱后盖电机组安装
Installation of five star crankcase rear cover motor set



组装后示意图
Schematic diagram after assembly

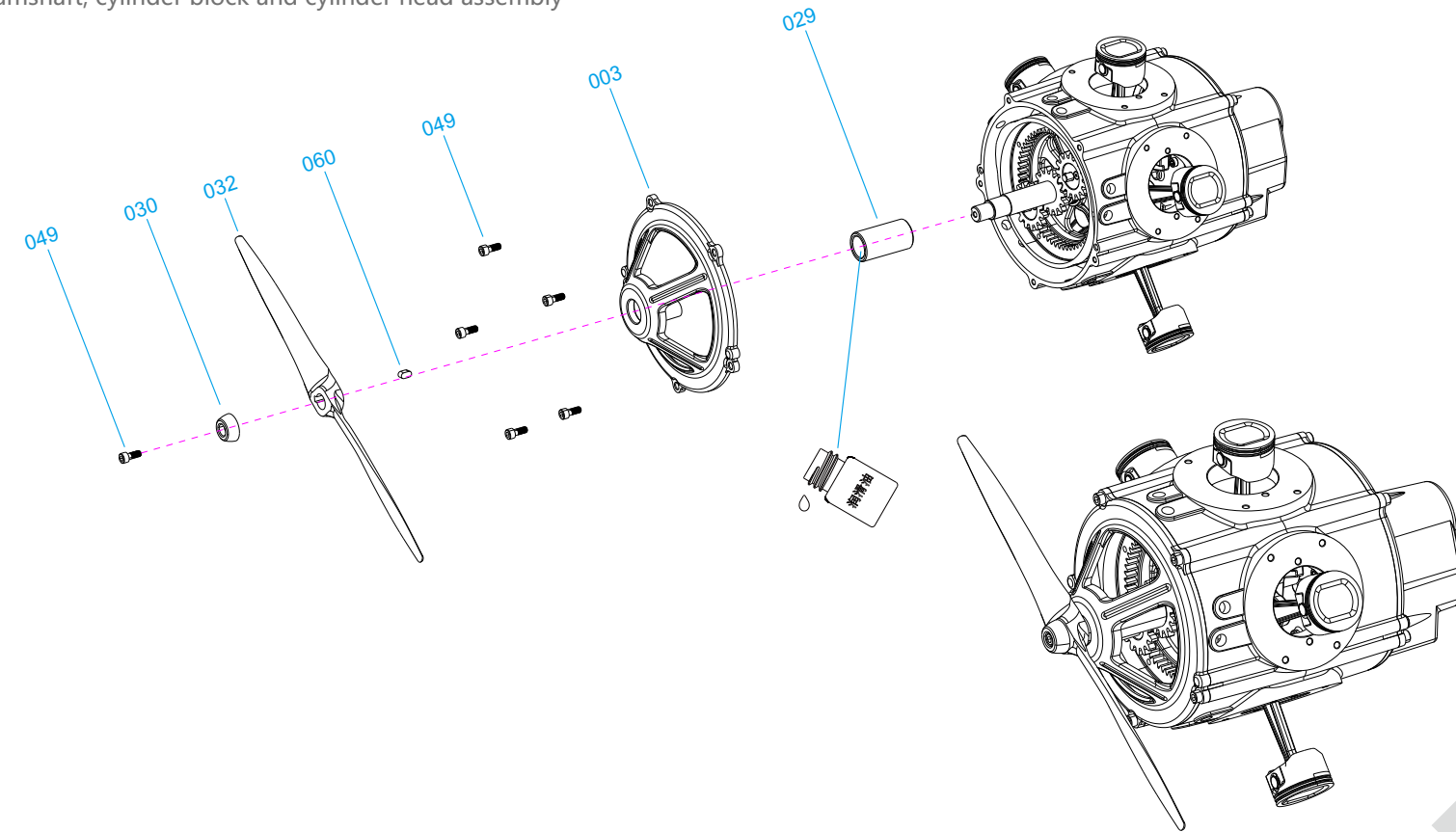


7. 星五凸轮、凸轮齿轮安装
Installation of five-star cam and cam gear

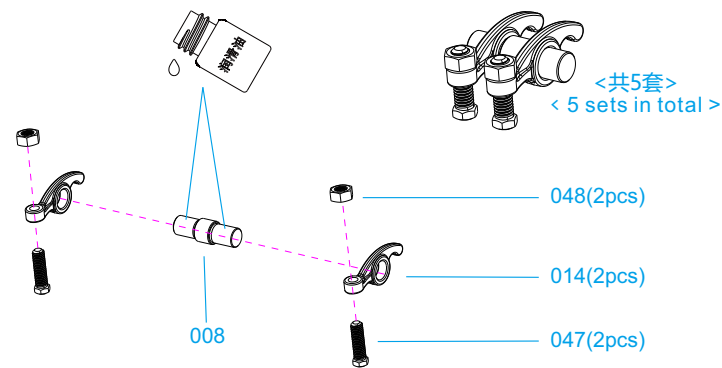


7.1 星五凸轮传动齿轮组安装
Installation of five star cam drive gear set

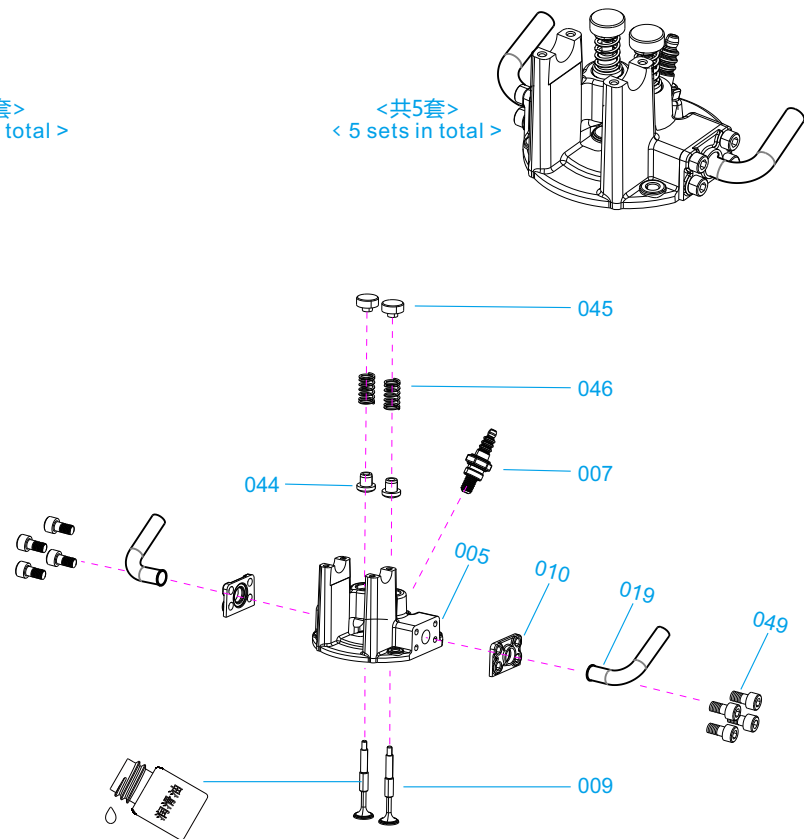
8. 星五曲轴箱前盖及螺旋桨安装总成
Camshaft, cylinder block and cylinder head assembly



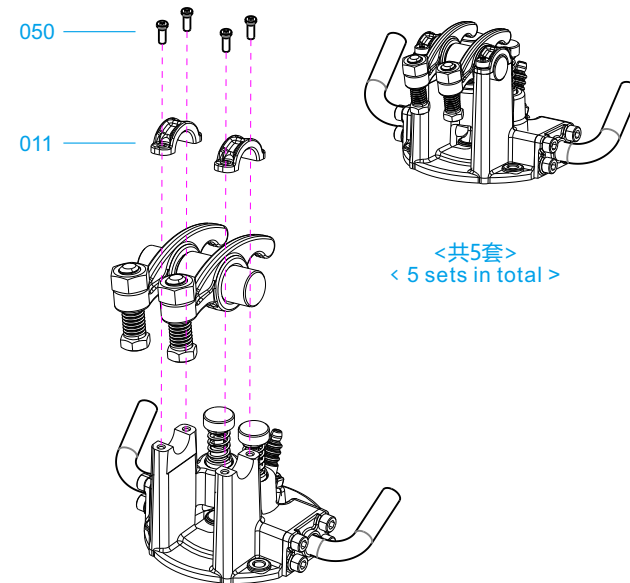
9. 星五摇臂组件安装
Installation of five star rocker arm assembly



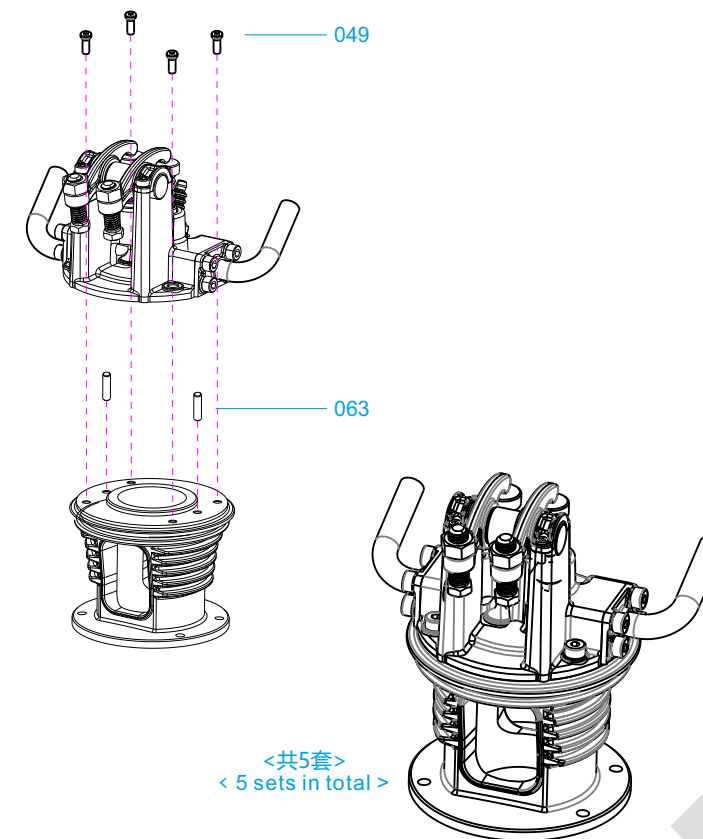
9.1 缸头组件安装
Installation of cylinder head assembly



9.2 星五摇臂组件、缸头组件安装
Installation of star five rocker arm assembly
and cylinder head assembly

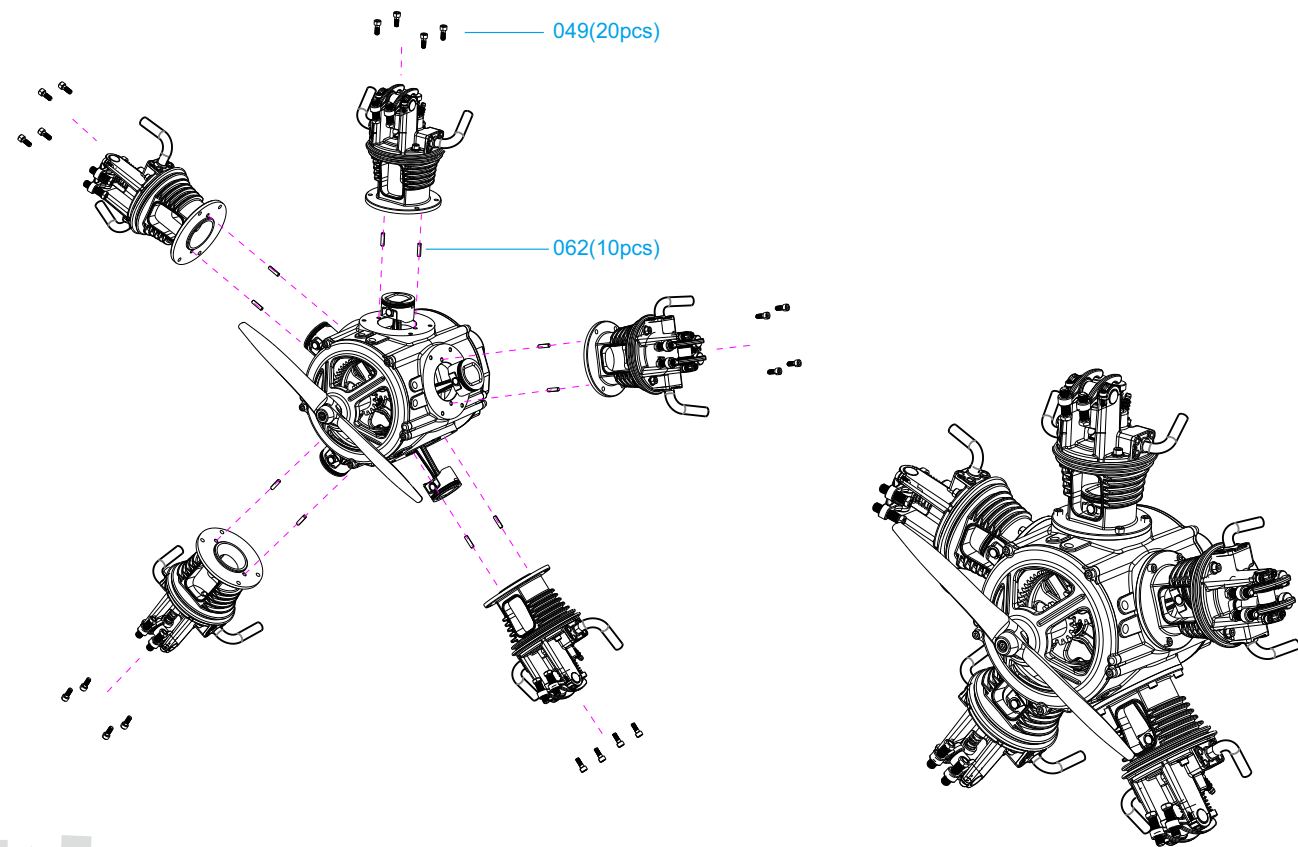


10. 缸体、缸头组件安装
Installation of cylinder block and
cylinder head assembly



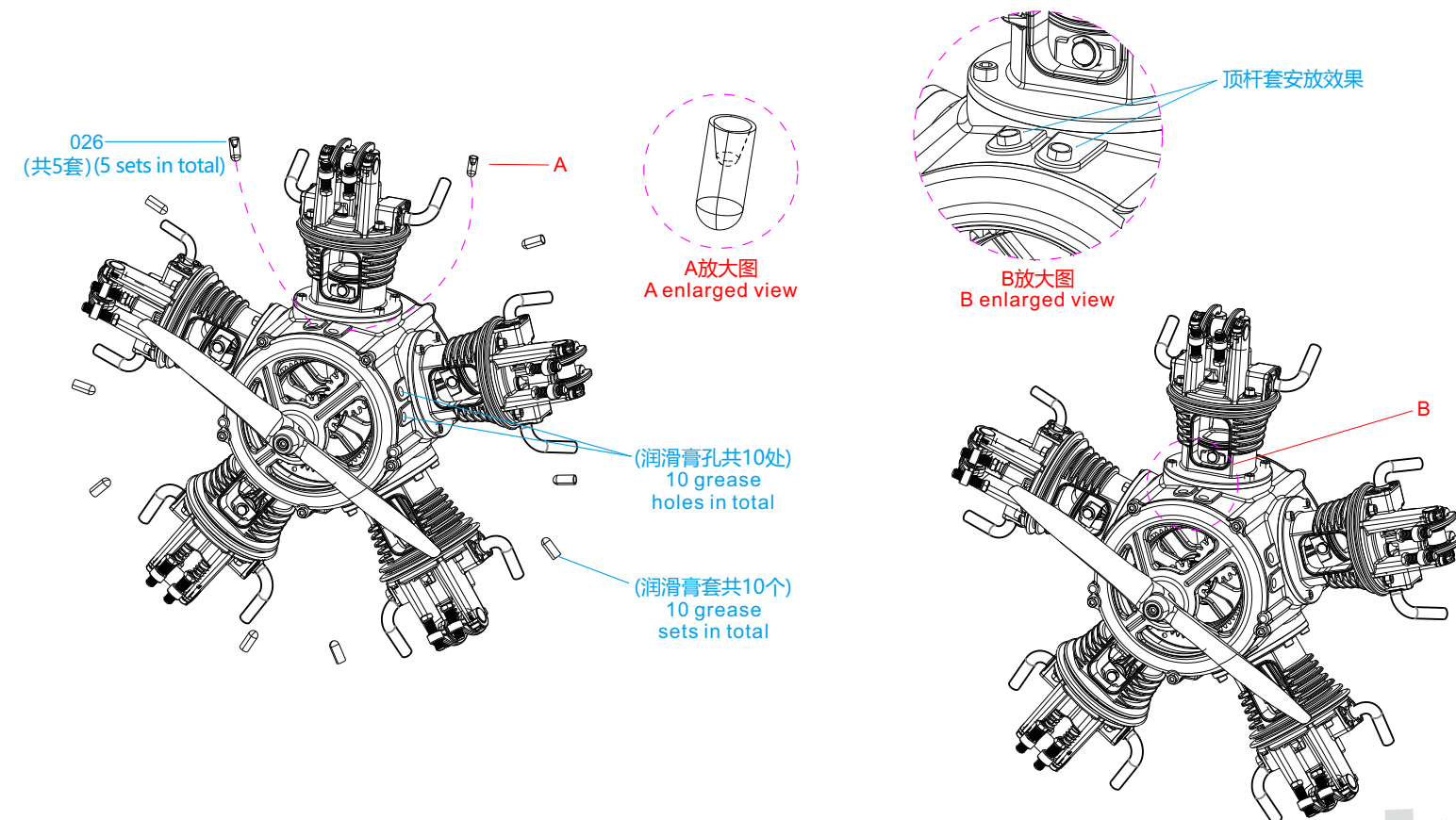
11. 星五曲轴箱组件与缸体组件安装总成

Installation assembly of star five crankcase assembly and cylinder block assembly



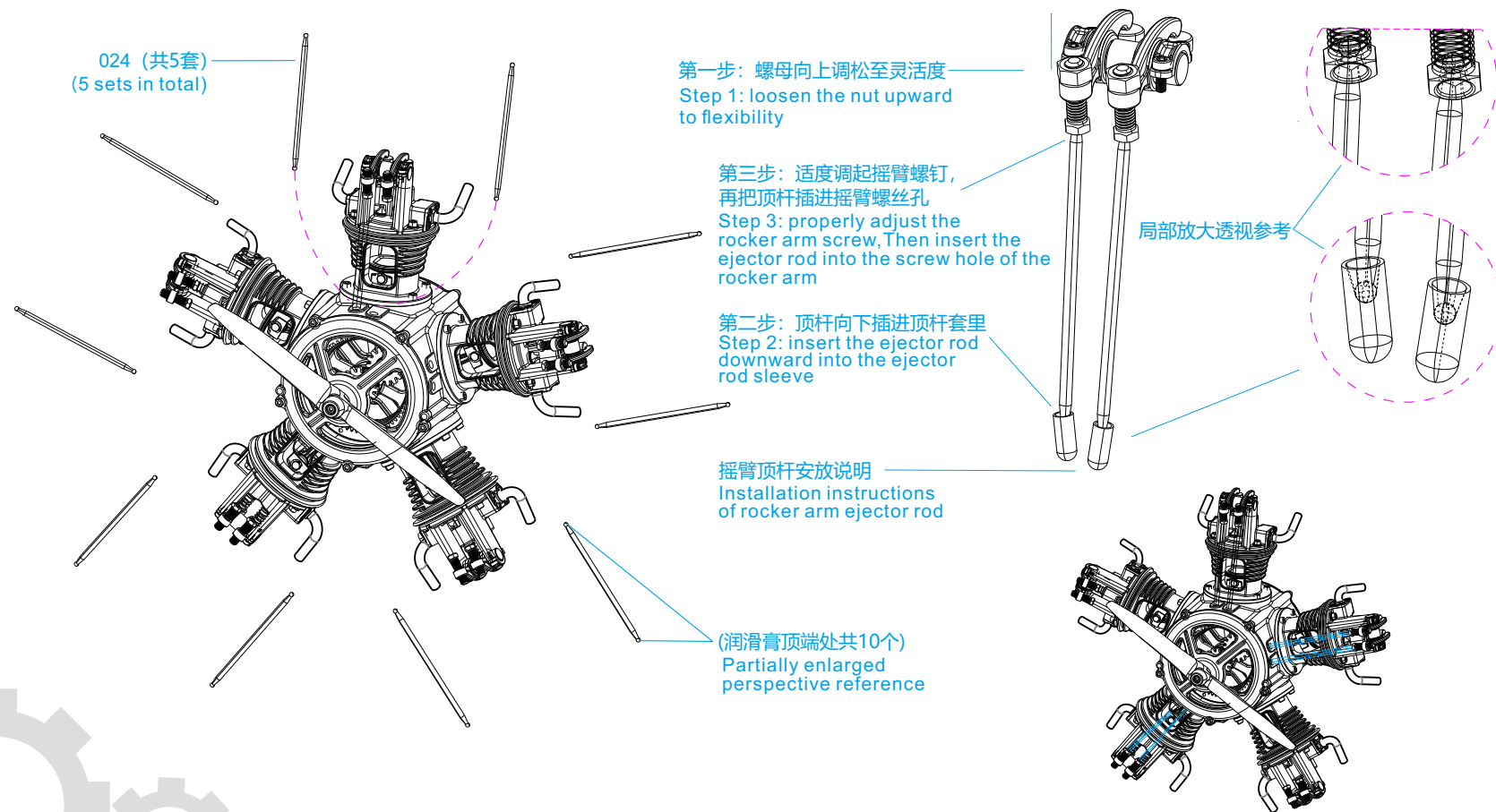
12. 星五摇臂顶杆套安位置总成

Star five rocker arm ejector rod sleeve installation position assembly

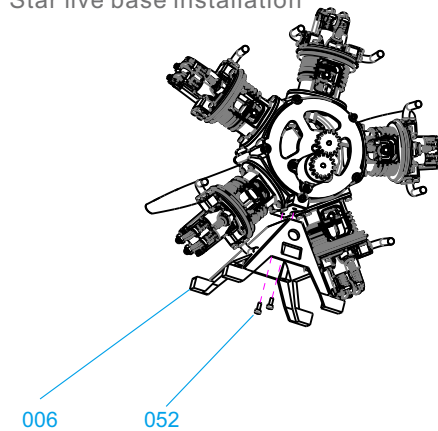
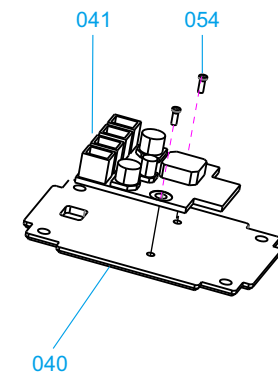
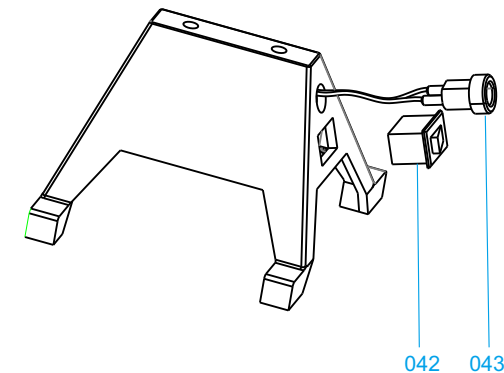
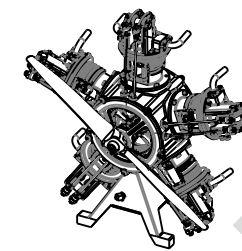
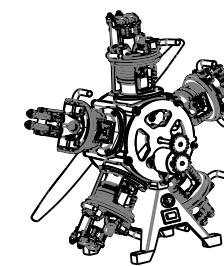
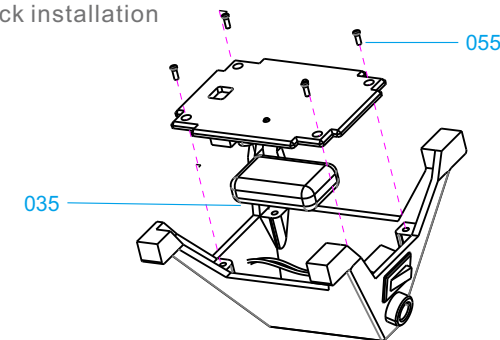


13. 星五摇臂顶杆与星五摇臂顶杆套安装总成

Installation assembly of star five rocker arm ejector rod and star five rocker arm ejector rod sleeve



14. 星五底座电源组及接线安装 Star five base power pack and wiring installation

14.1 星五底座安装
Star five base installation14.2 电路板安装
Circuit board installation14.3 开关、插头安装
Switch, plug installation14.4 电池组安装
Battery pack installation

二、活塞发动机基本原理 Basic principles of piston engine

1. 活塞向下运动→吸入空气及汽油;

Piston moves downward → inhale air and gasoline;

2. 活塞向上运动→压缩混合气体;

The piston moves upward → compresses the mixed gas;

3. 活塞向下运动→点燃压缩气体; 气体燃烧膨胀推动活塞;

The piston moves downward → ignites the compressed gas; Gas combustion expands to push the piston;

4. 活塞向上运动→排出废气。

Piston moves upward → exhaust gas.

如图:



单缸发动机工作时，曲轴每转两圈，活塞在气缸中直线往复做四次运动完成一个工作程序（四冲程），气缸内的混合气点火燃烧一次，爆发的气体推动活塞通过曲轴连杆机构使曲轴做旋转运动实现活塞在气缸中作往复直线运动，活塞连续的上下运动变为曲轴的连续旋转运动，将动力不断的输出，使发动机正常运转工作。

When the single cylinder engine works, every two revolutions of the crankshaft, the piston reciprocates in a straight line in the cylinder for four times to complete a working procedure (four strokes). The mixture in the cylinder ignites and burns once, and the explosive gas pushes the piston to rotate the crankshaft through the crankshaft connecting rod mechanism to realize the reciprocating linear motion of the piston in the cylinder. The continuous up and down movement of the piston changes into the continuous rotary movement of the crankshaft, which continuously outputs the power and makes the engine work normally.

三、五缸发动机零件列表 Parts list of single cylinder engine

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
001		星五曲轴箱 Five star crankcase	1
002		星五曲轴箱后盖 Five star crankcase rear cover	1
003		星五曲轴箱前盖 Five star crankcase front cover	1
004		缸体 Cylinder block	5
005		V2-T缸头 V2-t cylinder head	5
006		星五固定底座 Star five fixed base	1

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
007		火花塞 spark plug	5
008		星五摇臂轴 Five star rocker shaft	5
009		气门 valve	10
010		气管固定座 Tracheal fixing seat	10
011		凸轮轴盖 Camshaft cover	10
012		星五从动连杆销 Five star driven link pin	5

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
013		活塞销 piston pin	5
014		星五摇臂 Star five rocker arm	10
015		活塞 piston	5
016		星五从动连杆 Five star driven link	5
017		星五从动连杆压块 Star five driven connecting rod pressing block	1
018		星五从动连杆块 Star five driven link block	1
019		气管 trachea	10

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
020		星五曲轴齿轮 Star five crankshaft gear	1
021		星五过齿轮-1 Star five through gear-1	2
022		星五过齿轮-3 Five star over gear-3	2
023		星五后曲轴套 Star five rear crankshaft sleeve	1
024		星五摇臂顶杆 Star five rocker arm ejector rod	10
025		星五过齿轮轴 Five star gear shaft	2
026		星五摇臂顶杆套 Star five rocker arm ejector sleeve	10

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
027		星五保持架 Five star holder	1
028		星五过齿轮-2 Star five through gear-2	2
029		星五曲轴套 Star five crankshaft sleeve	1
030		螺旋桨端盖 Propeller end cover	1
031		马达齿轮连接轴 Motor gear connecting shaft	1
032		螺旋桨 propeller	1
033		星五后曲轴 Star five rear crankshaft	1

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
034		电机固定座 Motor fixing seat	1
035		电池组 Battery pack	1
036		电机 electric machinery	1
037		星五前曲轴 Star five front crankshaft	1
038		星五凸轮 Star five cam	1
039		星五凸轮齿轮 Star five cam gear	1
040		星五底座盖板 Star five base cover plate	1

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
041		电路板 Circuit board	1
042		开关 switch	1
043		充电插头 charging plug	1
044		气门套 Valve sleeve	10
045		气门帽 Valve cap	10
046		气门弹簧 Valve spring	10
047		星五摇臂螺丝 M3*12 Five star screw rocker arm	10

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
048		M3螺母 M3 nut	10
049		杯头螺丝 M2*5 Screw head	95
050		十字平头螺丝 M1.4*4 Cross flat head screw	24
051		杯头螺丝 M2*6 Screw head	6
052		杯头螺丝 M3*6 Screw head	2
053		CM头螺钉 CM1.6*4 Cm head screw	2
054		Cm头螺钉 CM2*4 Cm head screw	5

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
055		CM头螺钉 CM2.5*6 Cm head screw	4
056		机米螺丝 M2*4 Machine meter screw	2
057		轴承钢套 $\phi 8 * \phi 12 * 2.5$ Bearing steel sleeve	3
058		轴承 MR63ZZ Bearing	1
059		卡簧 $\phi 2.5$ Snap ring	10
060		平键 2*2*6 Flat key	2
061		开口销 $\phi 1.5 * 6$ cotter pin	1

序号 NO.	产品图片 Product picture	产品名称 Product name	数量 Qty.
062		M2弹垫 M2 spring pad	1
063		开口销 $\phi 2.0 * 6$ cotter pin	20
064		润滑油 Lubricating oil	1

保修说明

一、保修须知

购买本产品，请仔细阅读以下保修条款，以确保产品得到有效保修。

- 1、本产品为组装体验式产品，拆包装后无质量问题不支持7天无理由退换货。不拆包装的情况下从购买之日起7天可以退换货；
- 2、购买本产品时，由销售商协助在保修卡上完整、真实的填写您的相关信息，并索要有效发票或购买凭证，且妥善保管；
- 3、用户需要保修时，必须出具购机发票或有效三包凭证。如果用户丢失有效发票或三包凭证且不能提供复印件的，根据机器的生产日期后延60日为保修的起始日期，提供一年的保修服务；
- 4、保修对象为用户购机后及使用前有质量问题的零件。对于用户不合理使用而损坏的零件，本公司提供收费服务；
- 5、本公司保留对售后服务条款的最终解释权及修改权限。

二、售后服务及保修内容

- 1、自产品签收日起，电机、电池、电路板三个月保修，其它零件提供一年保修；
- 2、购新机时如发现零件缺失，凭保修卡的购买日期30天内厂家予以免费补发缺失的零件，超过30天则需要用户到土星官方网站购买；
- 3、用户组装完成后产品出现无法运转或不良的情况，可向厂家咨询原因，也可寄回厂家免费检测或调试；

4、用户碰到任何产品问题，本公司或授权机构提供技术咨询或指导；

5、所有在保修范围内被更换下来的零件，零件和附件归本公司所有。用户必须提供有质量问题的零件，向本公司换取新零件。

三、非保修内容

- 1、超过三包有效期的；
- 2、未按产品使用说明书要求使用、维护、保管不当造成损坏的；
- 3、非本公司或授权销售网点销售的产品；
- 4、无有效发票或三包凭证的，或擅自涂改售后服务卡的（能够证明在三包有限期的产品除外）
- 5、售后服务卡上的产品型号或编号与商品不相符的；
- 6、因不可抗力（如：水灾、火灾、地震、雷击等）造成伤害的；
- 7、产品使用中的自然磨损，如：产品间隙变大、润滑油干涩、电池长期老化等造成的问题；
- 8、对于非产品本身品质原因造成的故障（如：进水、受潮、摔坏、外力挤压、变形、使用不当等）
- 9、经销商对保修内容作出的约定，凡超出本保修协议的，不在保修范围内。

Warranty description

I. Warranty Instruction

Please carefully read the following warranty terms when purchasing this product so as to assure effective warranty for the product:

1. Since this product is for assembly experience, "7-day no-hassle return/change policy" is not available if no quality defect is found after unpacking. "7-day no-hassle return policy" is available if the package is not removed;
2. When this product is purchased, your dealer will assist you to write down your complete real information on the warranty card, when you should ask the dealer for effective invoice or purchase voucher; then, the invoice and voucher shall be properly kept;
3. Users who apply for warranty have to show their purchase invoices or effective "three guarantees" certificate. For users who lost their effective voices or "three guarantees" certificate and fail to provide their copies, the warranty period is one year from the 60th day after the manufacturing of machine;
4. The warranty object is the parts that are found with defects after purchase and before use. We provide paid services for parts damaged by improper use by users;
5. We reserve the right to interpret and modify the terms & conditions of after-sales service.

II. Items of After-sales Service and Warranty

1. The warranty period for motor, battery and circuit board is three months from the day on which they are received and accepted; the warranty period for other parts is one year from the day on which they are received and accepted;
2. The user who finds some part missed when purchasing a new machine could request the manufacturer to supply the missed part within 30 days after the purchase date on warranty card; the user has to purchase that

part at Teching's official website after the said 30 days;

3. If the assembled product fails to run or run properly, the user could either consult the manufacturer for possible causes, or send the product back to the manufacturer for free testing or debugging;
4. We and our authorized agencies provide free technical advice or instruction for users who encounter any product problem;
5. All parts and accessories replaced within the scope of the warranty belong to our company. Users have to provide defective parts so that we can exchange them with new ones.

III. Items outside Scope of Warranty

1. Beyond the "three guarantees" period;
2. Damage is caused by failure to use, maintain and keep the product as per instruction manual;
3. Products that are not sold by us or our authorized sales outlets;
4. Those who hold no valid invoice or "three guarantees" certificate, or those who modify the after-sales service card without permission (except the case where the product is confirmed to be within the "three guarantees" period);
5. The product model or serial number on after-sales service card fail to match the commodity;
6. Damage caused by force majeure (e.g. flood, fire, earthquake, lightning strike, etc.);
7. Natural wear during the use of product, e.g. the problems arising from product gaps expansion, lubricating oil shortage, and battery aging, etc.;
8. For the faults (e.g. moisture invasion, dampness, breakage, external force extrusion, deformation and improper use, etc.) caused by other factors than product quality;
9. Dealers shall make agreement on warranty coverage; the situations outside this warranty agreement are not covered by the warranty.

售后服务

- 1、可以扫描土星小助手二维码，进行技术咨询；
- 2、可以进入土星文化公众号，获得相关技术咨询；
- 3、可以直接拨打本公司400电话，咨询本公司技术人员；
- 4、可以用邮件的形式向本公司进行技术咨询；
- 5、可以向附近的授权机构提出技术咨询；
- 6、可以以各种方式对公司产品提出意见、建议和新产品期望。

检验编号：

售后服务卡

用户名：_____ 联系电话：_____

产品名称：_____ 产品编号：_____

产品流水号：_____

问题描述：_____

服务内容

- 零件补缺 零件更换
 检测服务 需退换货

销售单位：_____

销售地点：_____

经办人：_____ 售后完成时间：_____

公 司：广州市土星文化发展有限公司

地 址：广州市黄埔区宏明路宝盛大厦

热线电话：0086-13924277386 4001-020-019

售后邮箱：sales@techingedu.com.cn



Sales service card

Account name: _____ Tel: _____

Product name: _____ Product No.: _____

Serial number of product: _____

Problem description: _____

Service content:

- Part replenishment Testing service
 Part replacement Return and change of goods needed

Sales unit: _____

Place of sale: _____

Operator: _____ After-sales completion time: _____

Company:
Guangzhou Teching Cultural Development Co., Ltd.
Address:
Baosheng Building, Hongming Road,
Huangpu District, Guangzhou City, China
After-sales email: sales@techingedu.com.cn
Hotline: 0086-13924277386 4001-020-019



Sales Service

1. Scan the Teching Assistant QR code for technical consultation;
2. Relevant technical information is available at Teching's official account;
3. You can call our hotline directly and consult our technician;
4. Technical consultation can be sent to us by mail;
5. Technical advice can be obtained from nearby authorized agencies;
6. You are encouraged to bring forward your comments and suggestions on our products and your expectations for new products in various manners.

Inspection No.:

