



LDO VTD R2 组装手册

我们使用家庭工具构建本设备, 这样任何人都可以拥有属于自己独一无二的打印机。

介绍



在开始本工程之前，请注意：

您即将在家中组装一台极其复杂的机器设备。如果你不小心，这个过程中会导致你重伤、烧伤及触电。请不要成为第一个挂掉的极客。开始组装前请通读整本手册。

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介绍

零件打印指南

建议您遵循以下建议：

3D打印工艺

熔融沉积成型（FDM）

材料

ABS或ASA

层高

推荐：0.2mm

挤出宽度

推荐：强制0.4mm

填充类型

网格、陀螺、蜂窝、三角形或立方

填充率 推荐：

40%

壁厚

推荐：4层

固态顶/底层 推荐：5层

介绍

文件命名

此时，您应该已经从LDO GitHub下载了我们的STL文件。您可能已经注意到，我们对文件使用了唯一的命名约定。以下是如何使用它们。

原色

示例 `z_joint_lower_x4.stl`

这些文件并无特别说明
完全可以根据自行理解
来进行安装。

强调颜色

示例 `[a]_tensioner_left.stl`

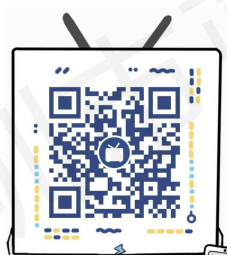
我们已为所有打算打印的STL
文件在前面添加了“[a]”并使用了
强调色。

所需数量

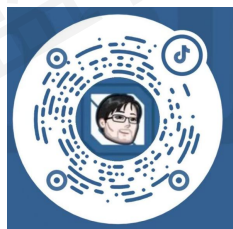
示例: `[a]_z_belt_clip_lower_x4.stl`

如果任何文件以“_x#”结尾
，则表示您需要打印的此
零件的数量。

观看配套视频教程
扫码查看组装步骤与关键细节



哔哩哔哩

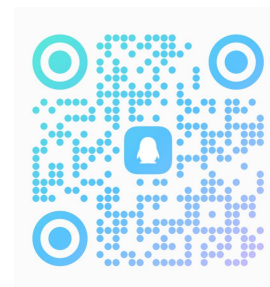


抖音



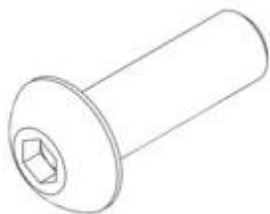
视频号

加入 LDO 技术社群
交流组装、调试及使用问题



资料更新 · 技术交流

硬件参考



盘头内六角螺丝 (BHCS)

标准: ISO 7380-1

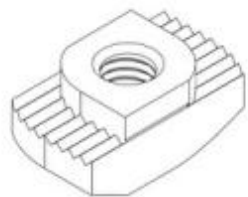
说明: 公制紧固件, 头部为圆弧盘头, 内六角驱动。
Voron 设备中 M5 规格大量使用



沉头内六角螺丝 (FHCS)

标准: ISO 10642

说明: 公制紧固件, 锥形沉头、顶面平整。



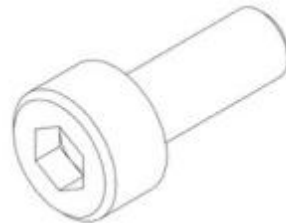
锤头螺母

说明: 螺纹牙型特殊, 可直接旋入塑料基材进行紧固。



弹珠螺母 (弹珠螺母)

别名: 滚入式 T 型螺母 说明: 可直接装入铝型材槽道, 指南包含 M3、M5 规格。



杯头内六角螺丝 (SHCS)

标准: ISO 4762

说明: 公制紧固件, 圆柱形头部, 内六角驱动。



自攻钉

说明: 螺纹牙型特殊, 可直接旋入塑料基材进行紧固。



热嵌入滚花螺母

说明: 使用电烙铁加热铜螺母, 压入塑料件并熔融塑料; 塑料冷却后咬合螺母滚花纹理, 具备优秀抗扭转、抗拉拔性能。本装机指南内包含 M3、M5 两种规格。



垫片

标准: DIN 125

说明: 一般由金属板材冲压成型; 厚度精度低于精密垫片, 本机型仅使用 M3 规格。

硬件参考



F695轴承

说明：带法兰边的滚珠轴承，用于龙门架各处定位支撑。



同步轮

说明：GT2 规格同步轮，用于 Voron 机型的运动传动系统。



手拧螺母

标准：DIN 466-B

说明：用于热床平台，兼具垫片与快速手拧调节功能。



垫片

标准：DIN 988

说明：请勿与普通冲压平垫圈混淆。厚度为 1mm 的精密垫片，用于所有 M5 规格标注位置的间隙调整。



惰轮

说明：GT2 规格惰轮，用于 Voron 机型的运动传动系统中张紧与换向。



基米螺丝

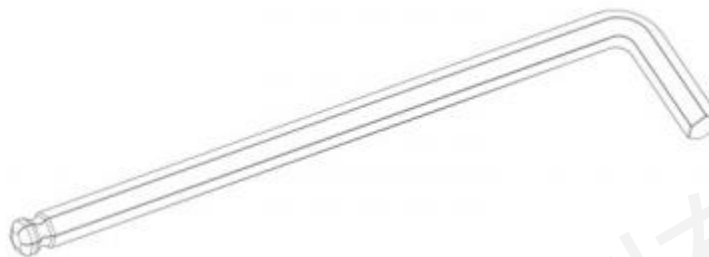
标准：ISO 4026

说明：无头内六角驱动的小型紧固件。用于同步带轮及其他齿轮的轴向固定。

硬件参考

球头内六角扳手

说明：本设计部分零件的装配需要使用球头内六角扳手。建议准备 2.0mm、2.5mm 和 3.0mm 三种规格。



2.5mm内六角扳手

说明：2.5mm 内六角扳手是本次装机使用频率最高的工具，强烈建议选用高品质规格。



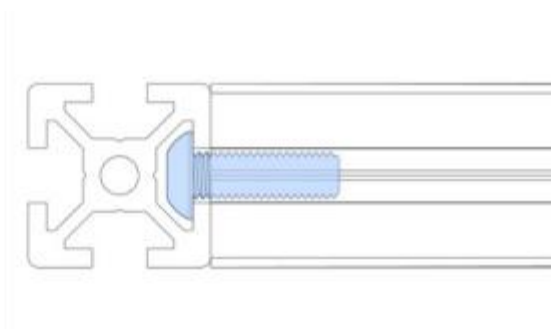
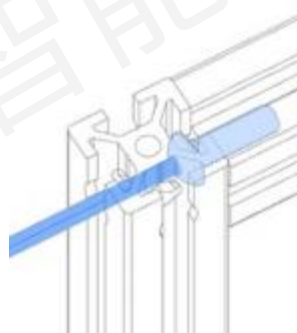
硬件参考



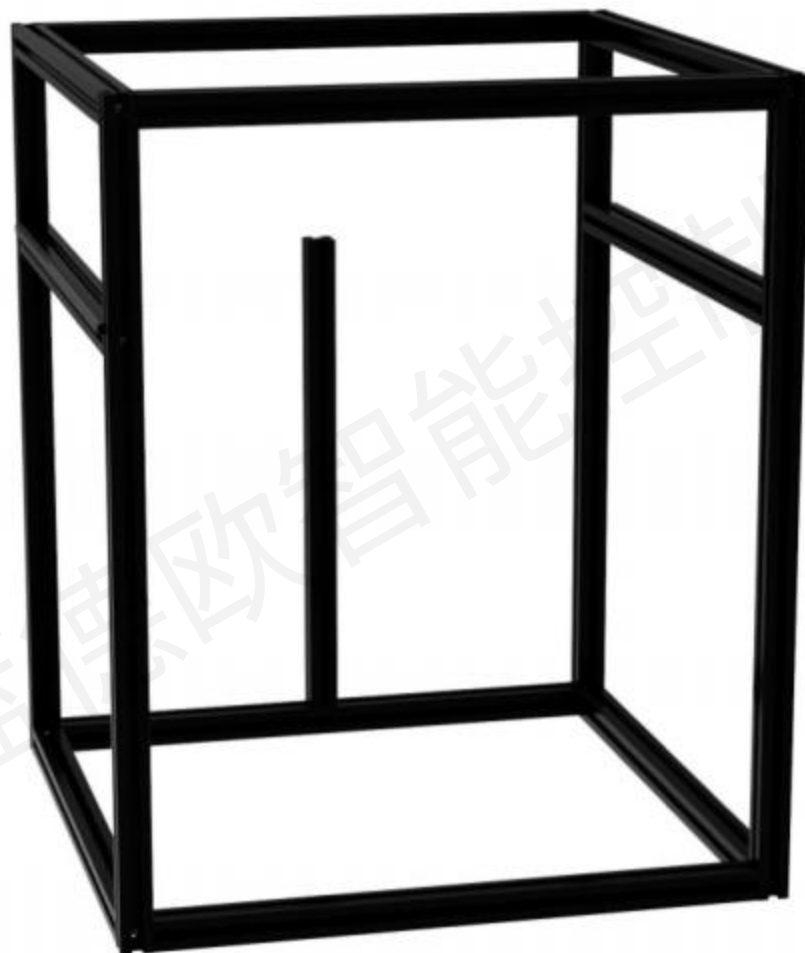
盲接基础

盲接是一种经济高效且结构牢固的组装方法。

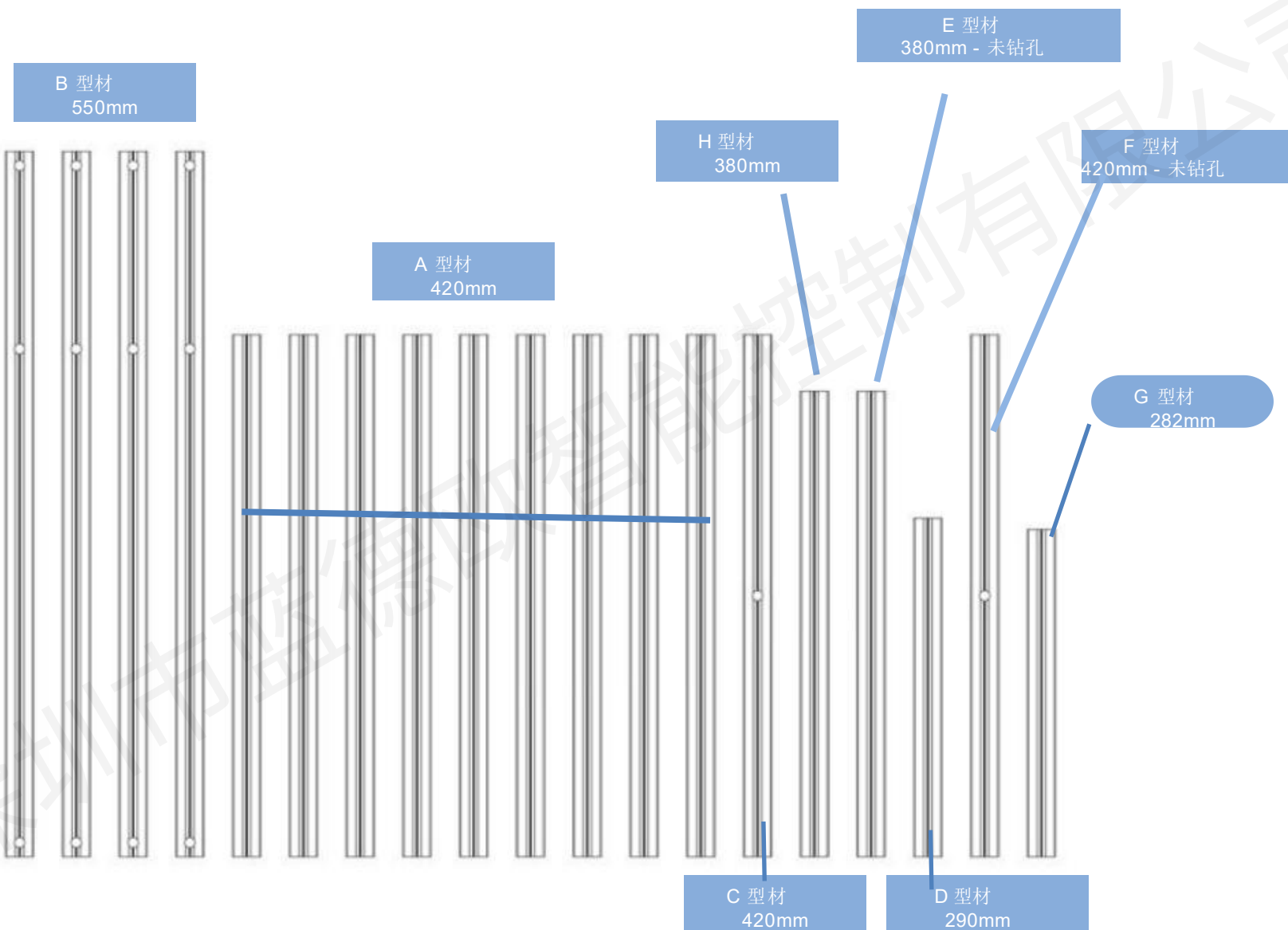
半圆头内六角螺丝的头部滑入另一型材的槽道中，并通过型材上的一个小检修孔牢固固定。



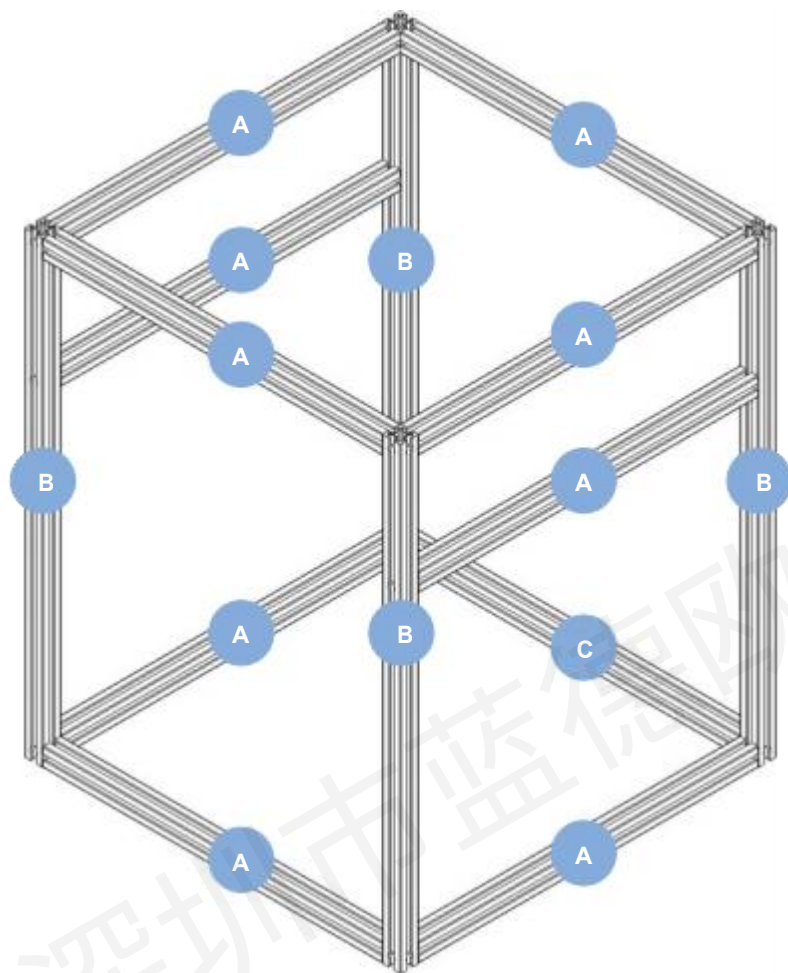
框架



分类型材：收集你的挤出物并按长度进行分类。按照本页所550示标签对步骤进行标记。

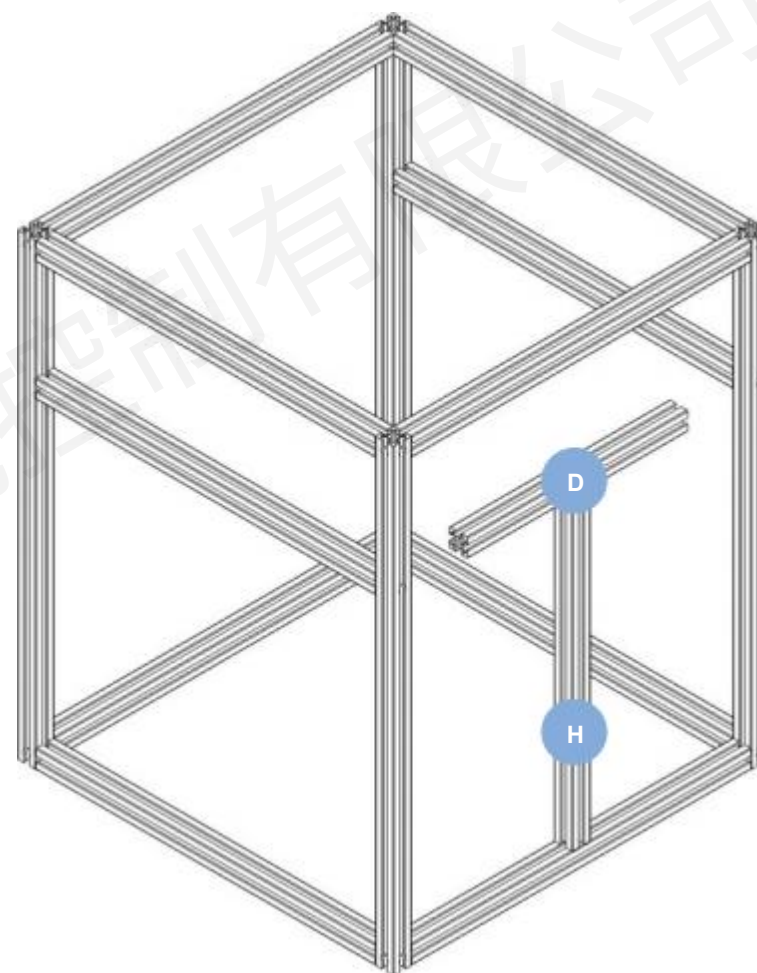


整体框架



外框架

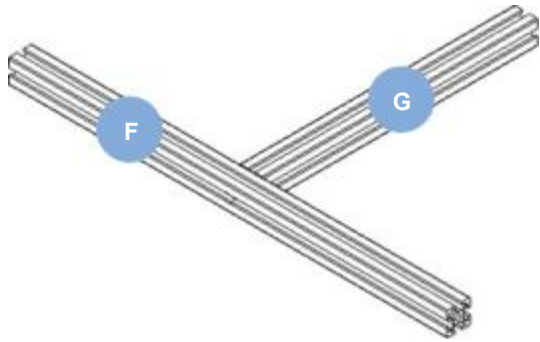
此视图显示了构成外框架的A、B和C三个挤出体的位置



后垂直支撑

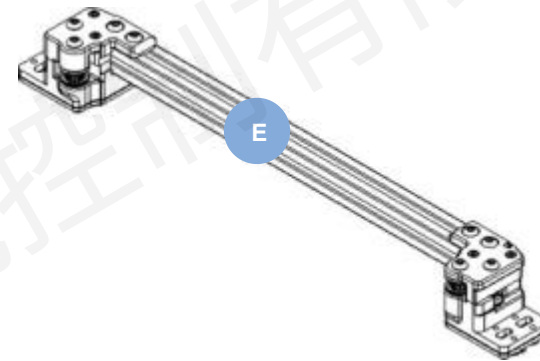
此视图显示了垂直支撑件的D和H型延伸部分的位置

整体框架



热床框架

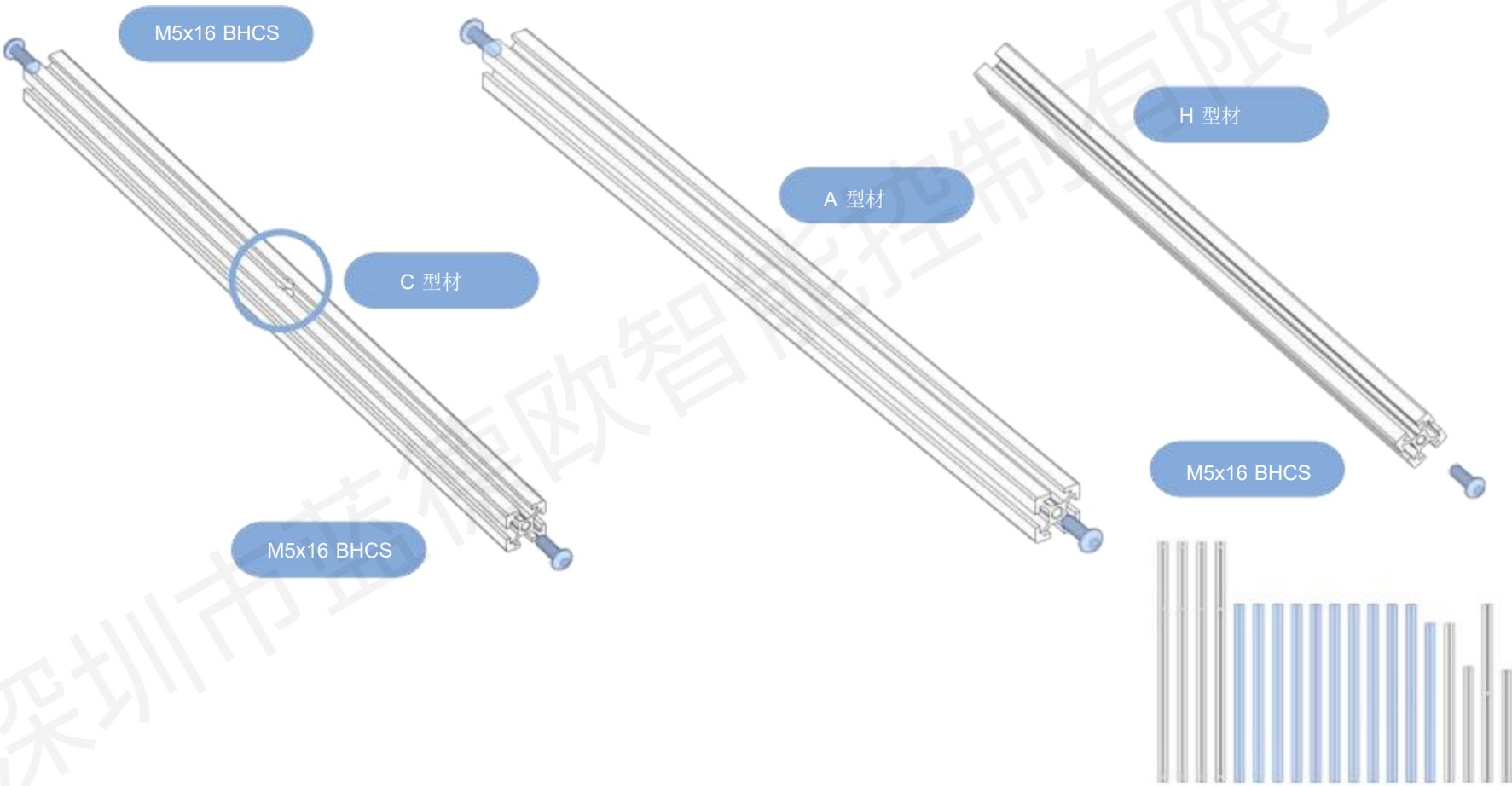
此视图显示了用于热床框架的F和G型挤压件



X轴

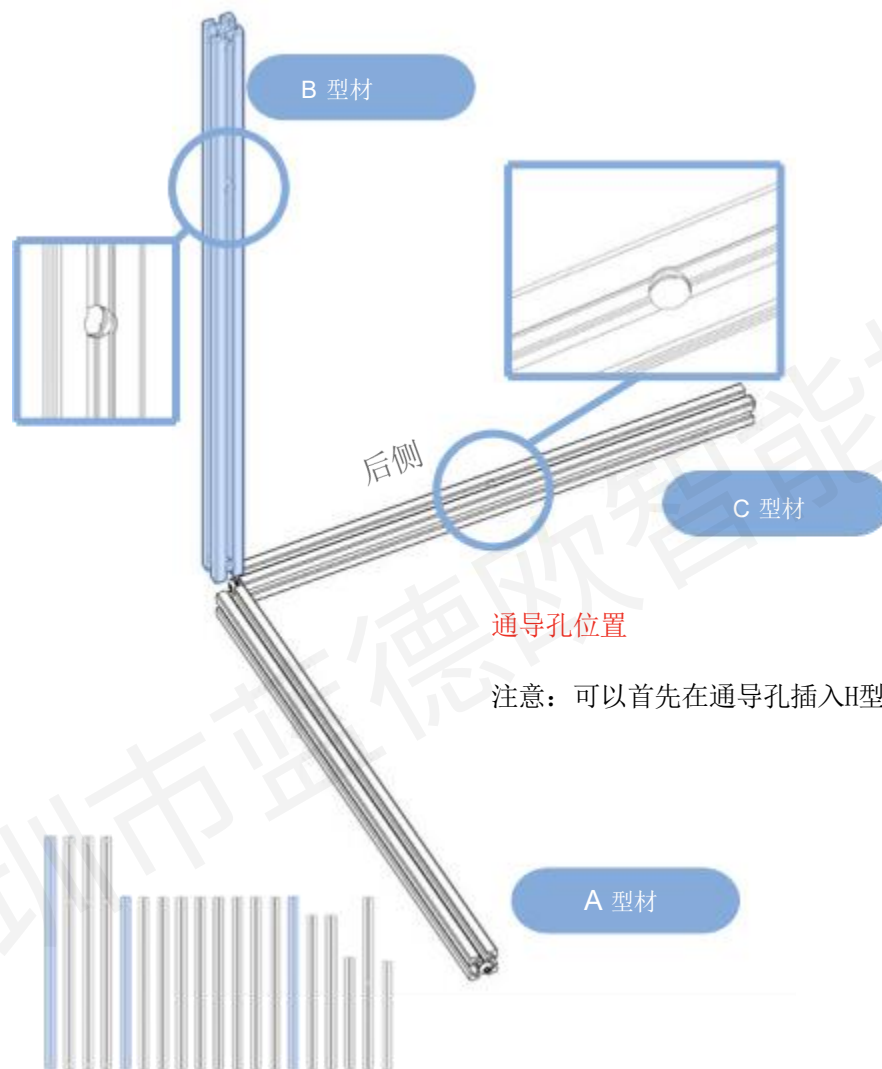
此视图显示了龙门X轴所使用的E型材

框架

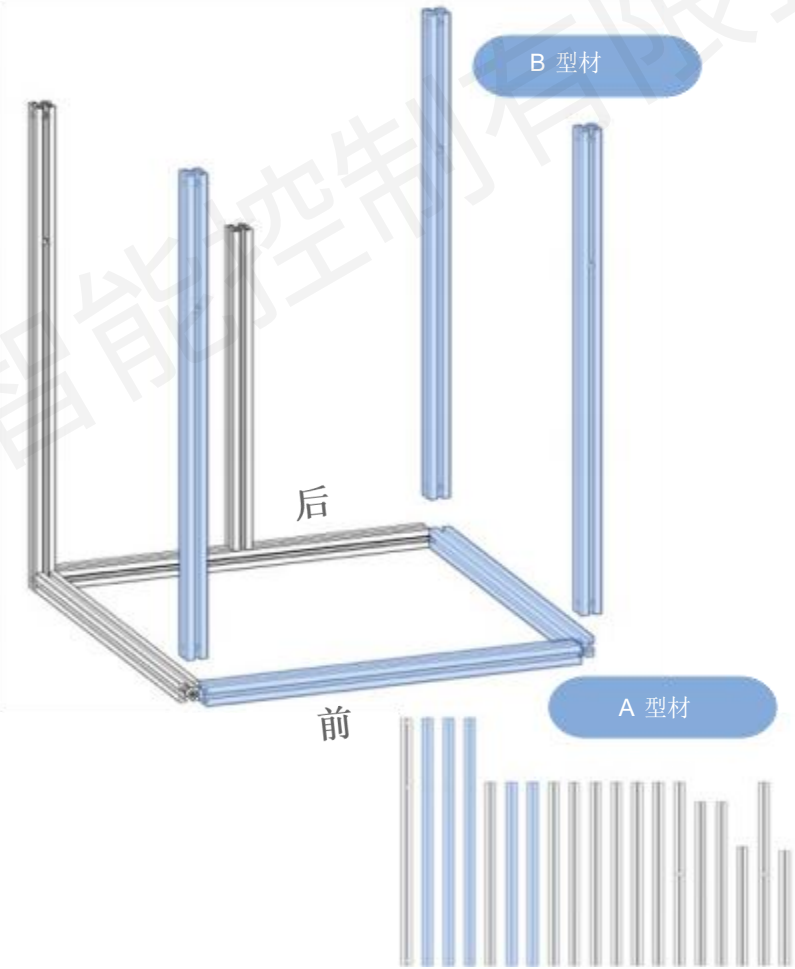
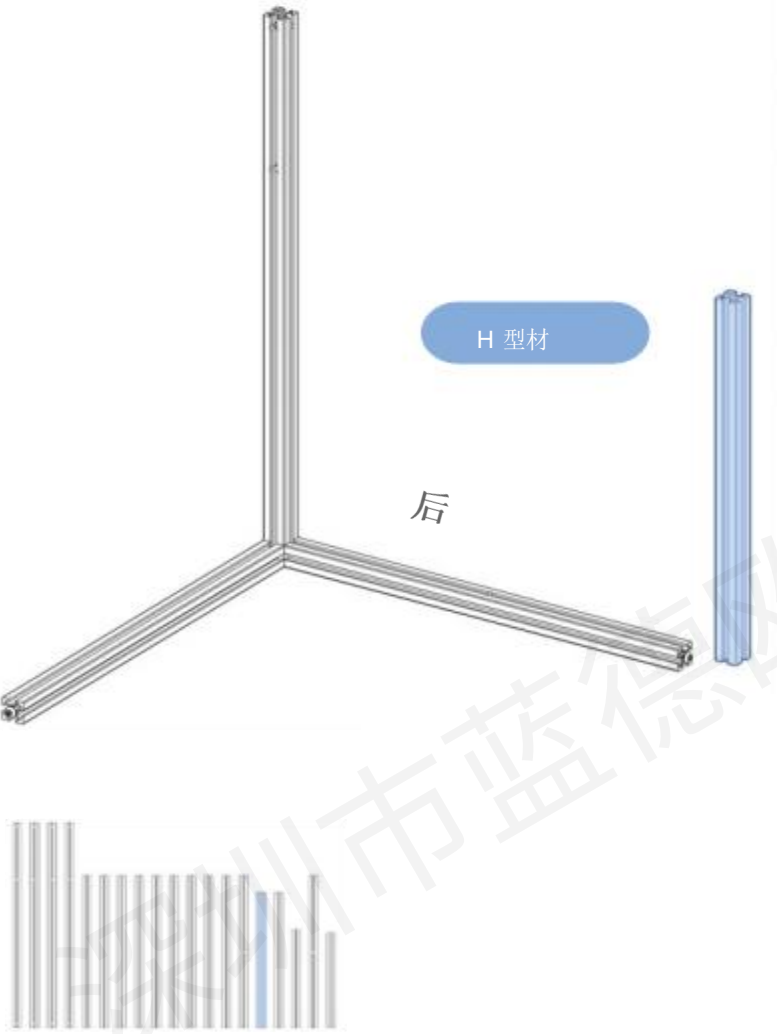


框架

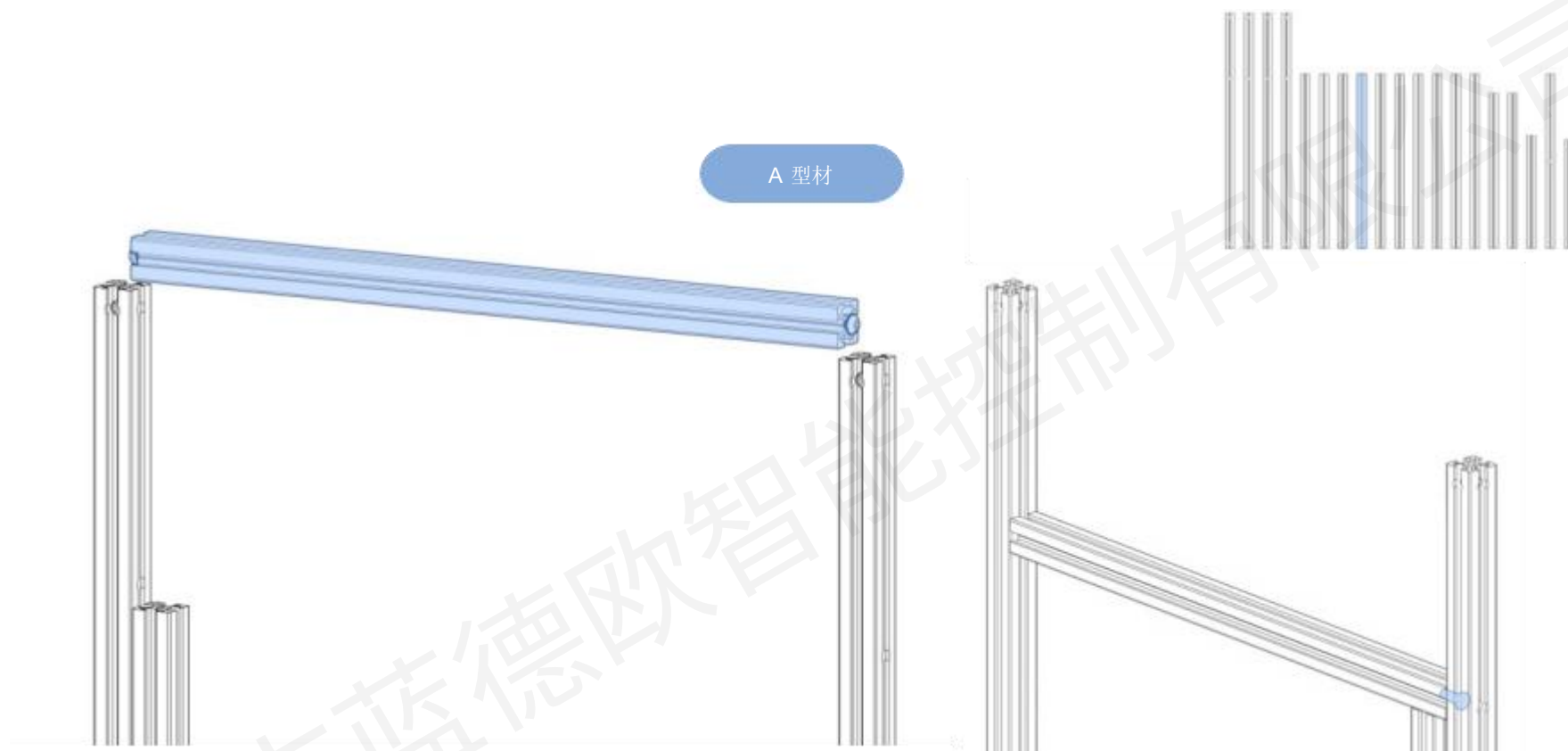
在平面上组装



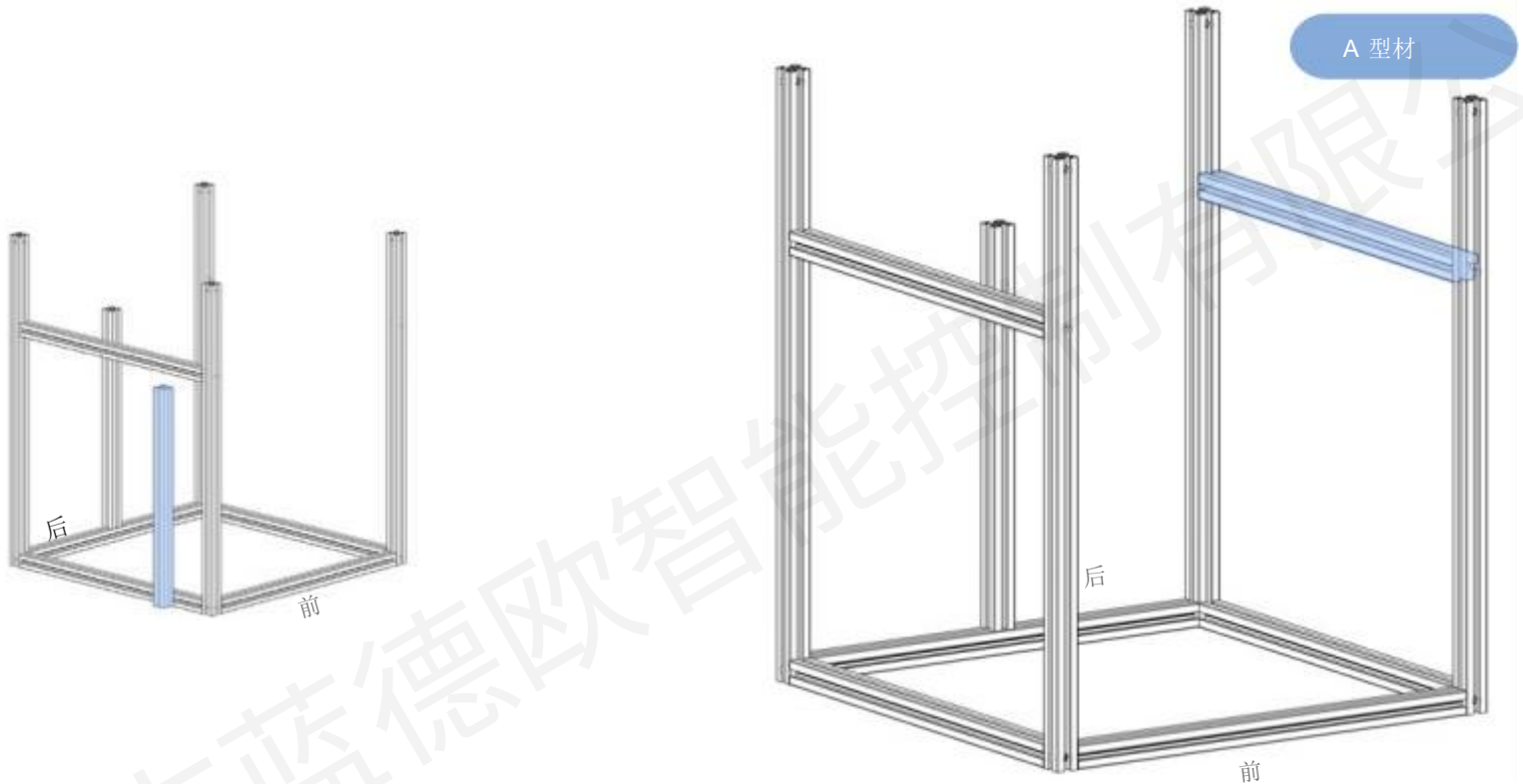
框架



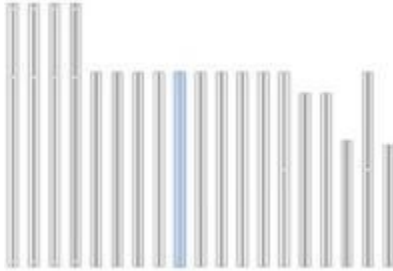
框架



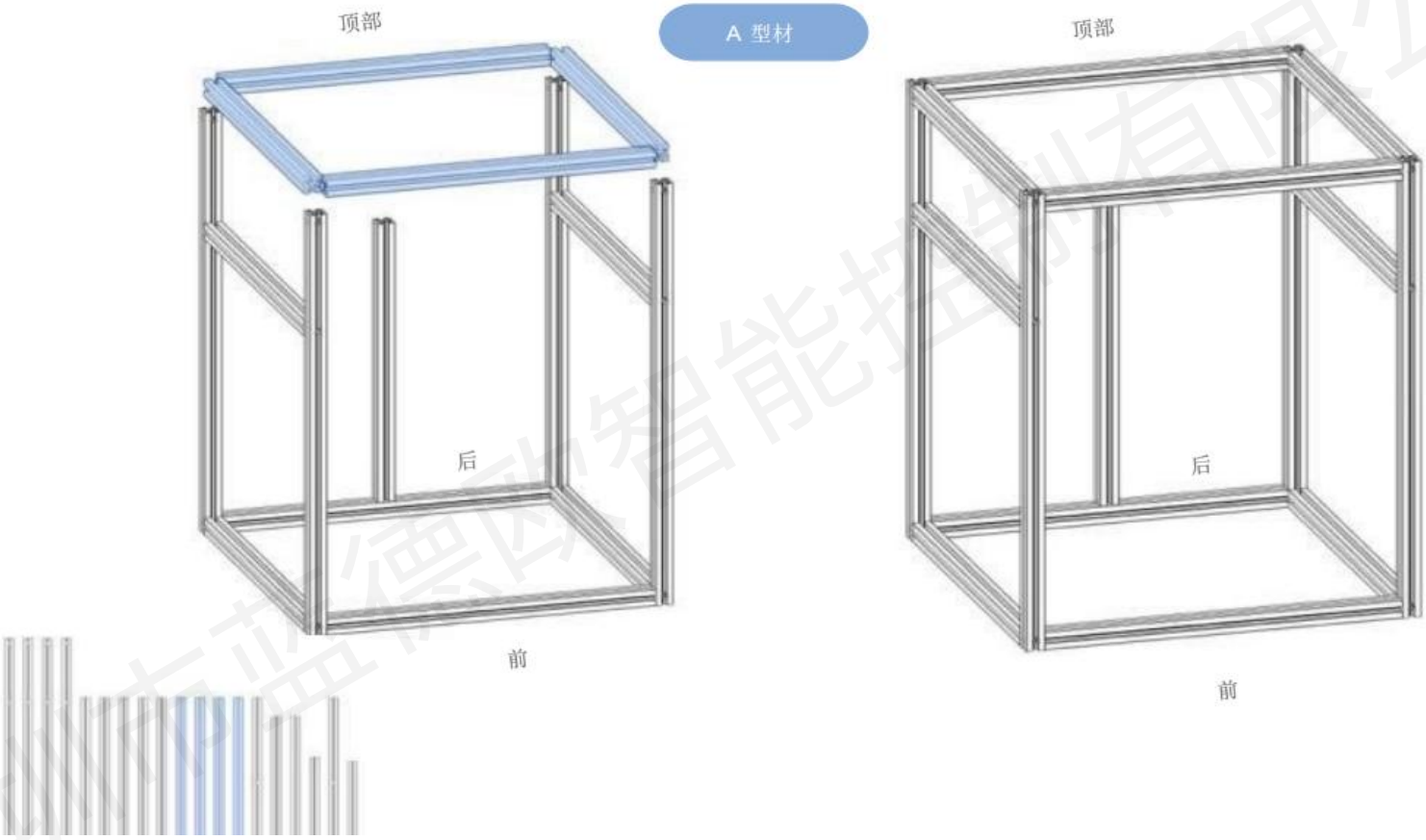
框架



重复相同步骤



框架

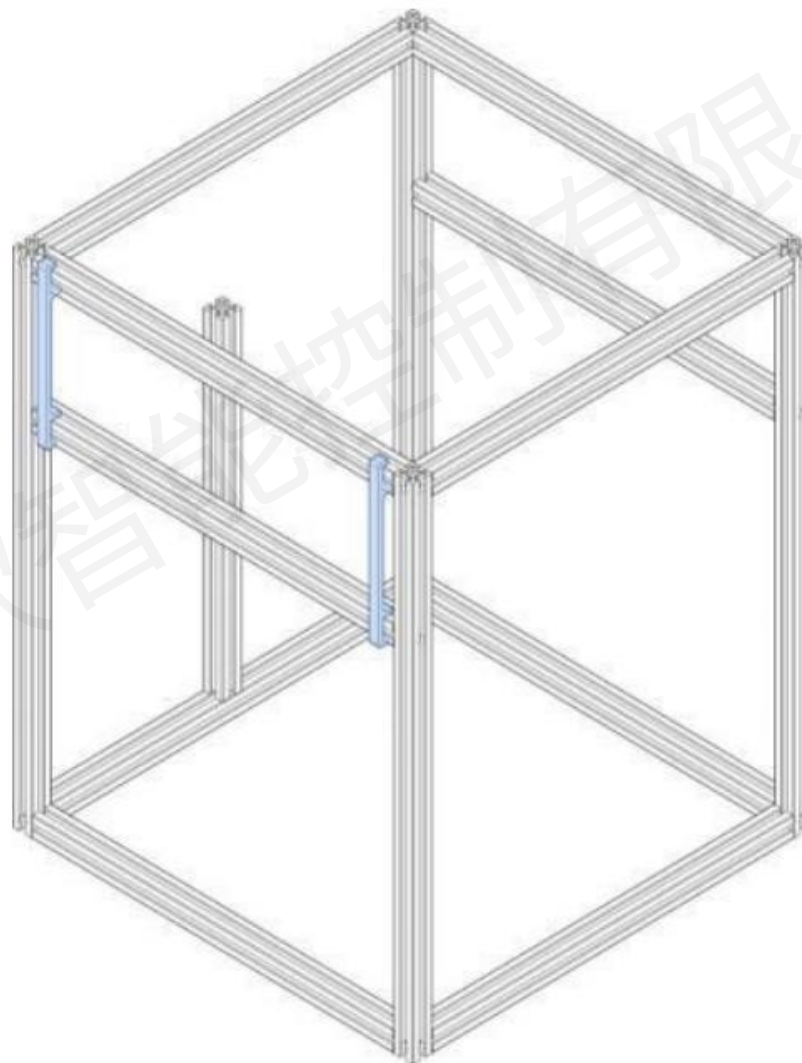


框架

找到正确位置：

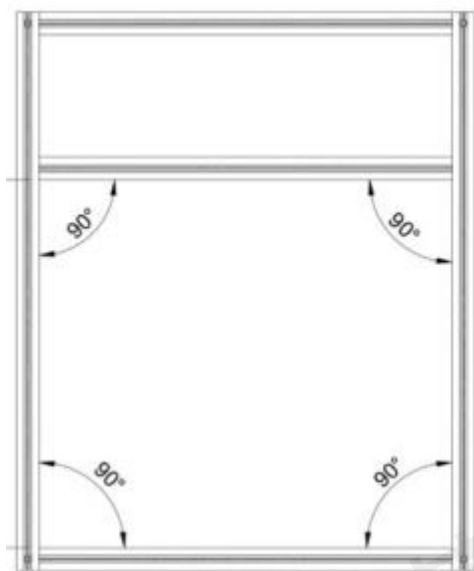
两侧重复相同步骤。

使用两件打印成型的 110mm 定位垫块，校准 Y 轴龙门铝型材，使其相互平行且高度一致；型材需呈 90° 直角，无扭转偏移，外侧表面完全贴合齐平。



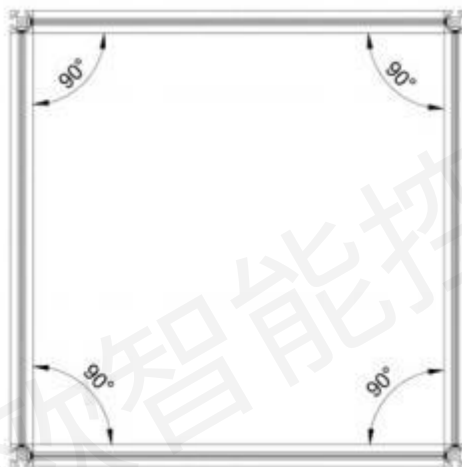
框架

顶部



检查方正性：

通过测量对角线来验证所有边角的角
度以及整体的方正程度。



A/B 驱动 和惰轮

B电机（面对打印机在左手边）



A 电机（面对打印机在右手边）



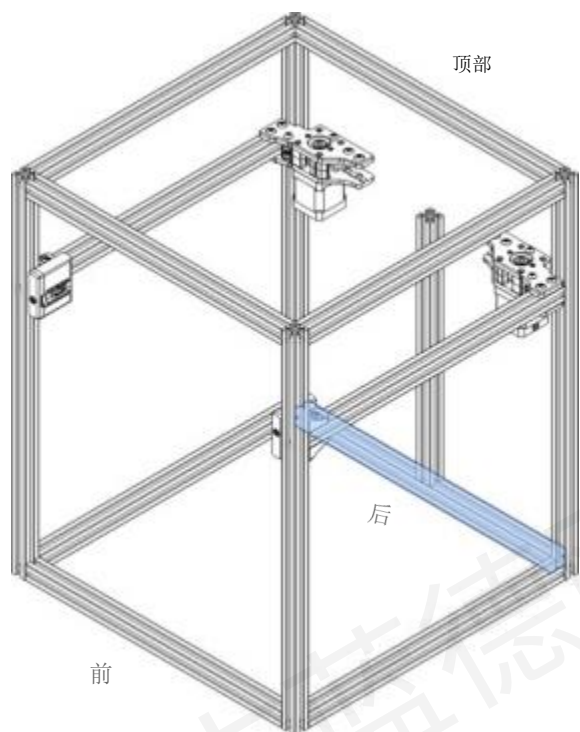
B惰轮（面对打印机在左手边）



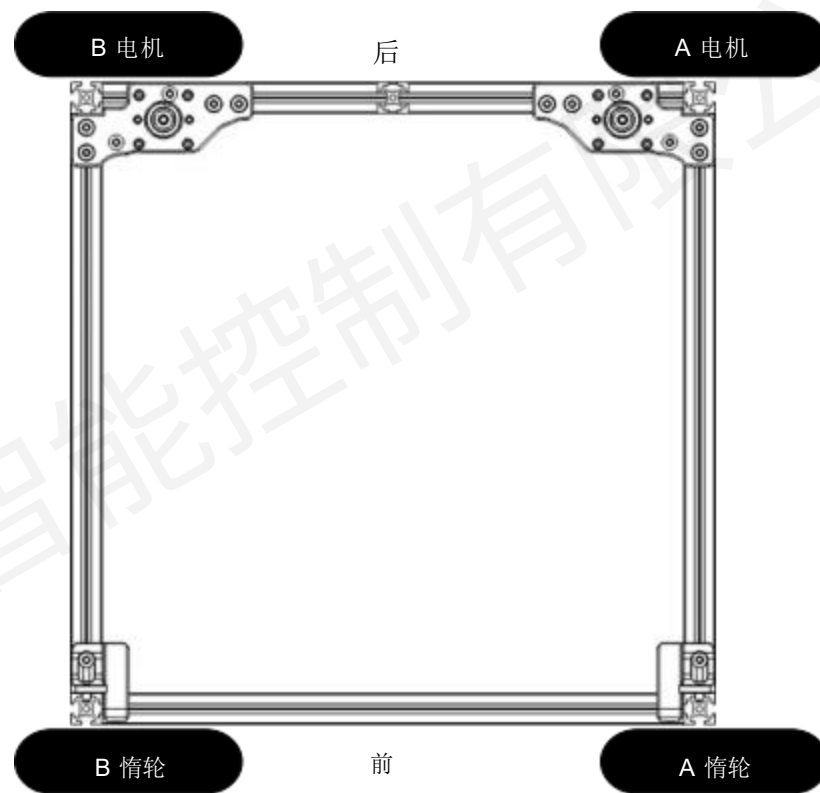
A惰轮（面对打印机在右手边）



概述

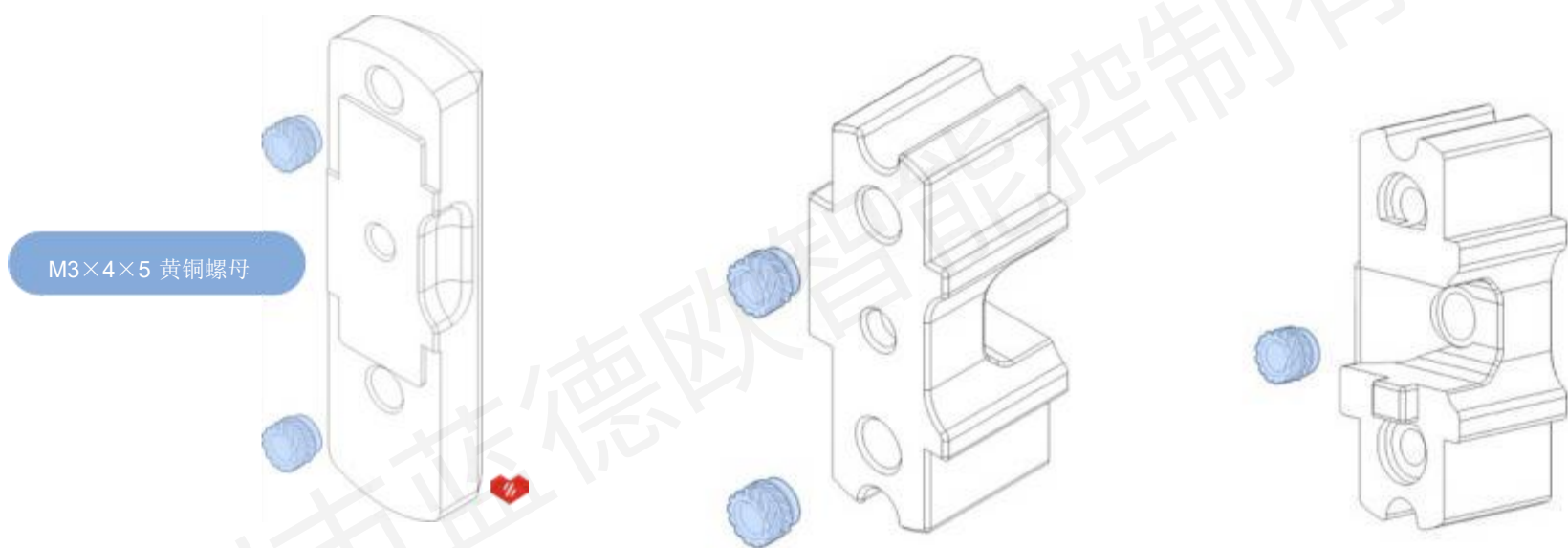


根据高亮部分确认打印机摆放方向，有助于理解操作部分
(面对打印机的图示)

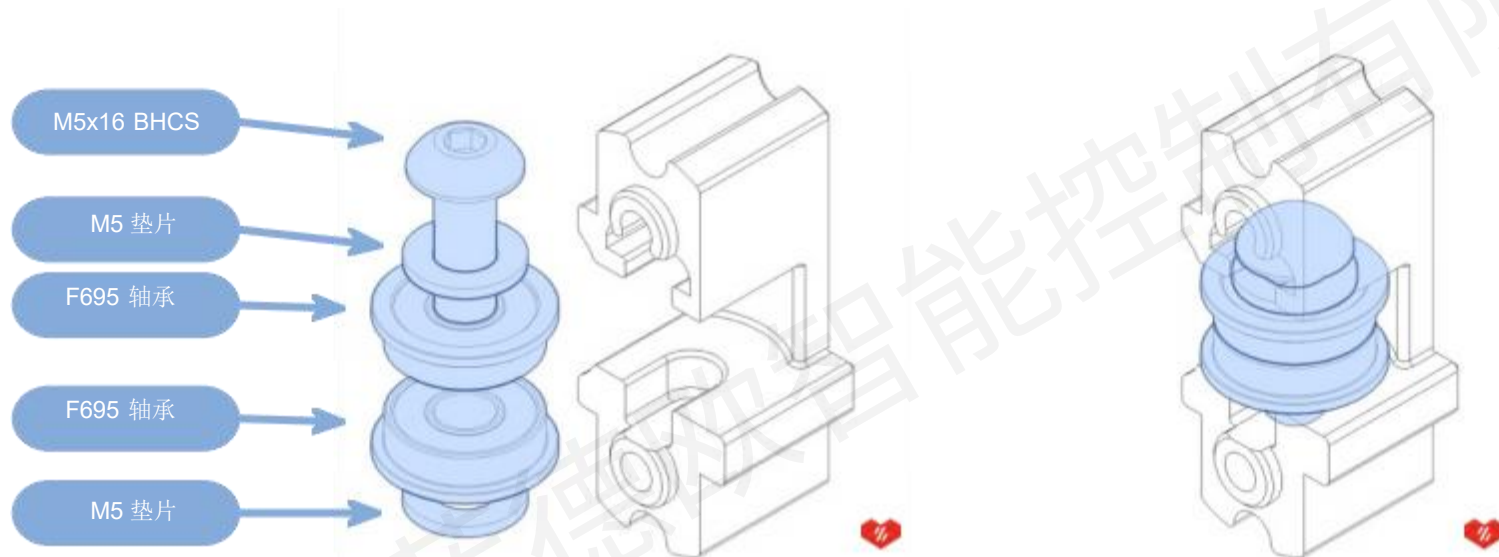


视角：面对打印机俯视图

组件准备

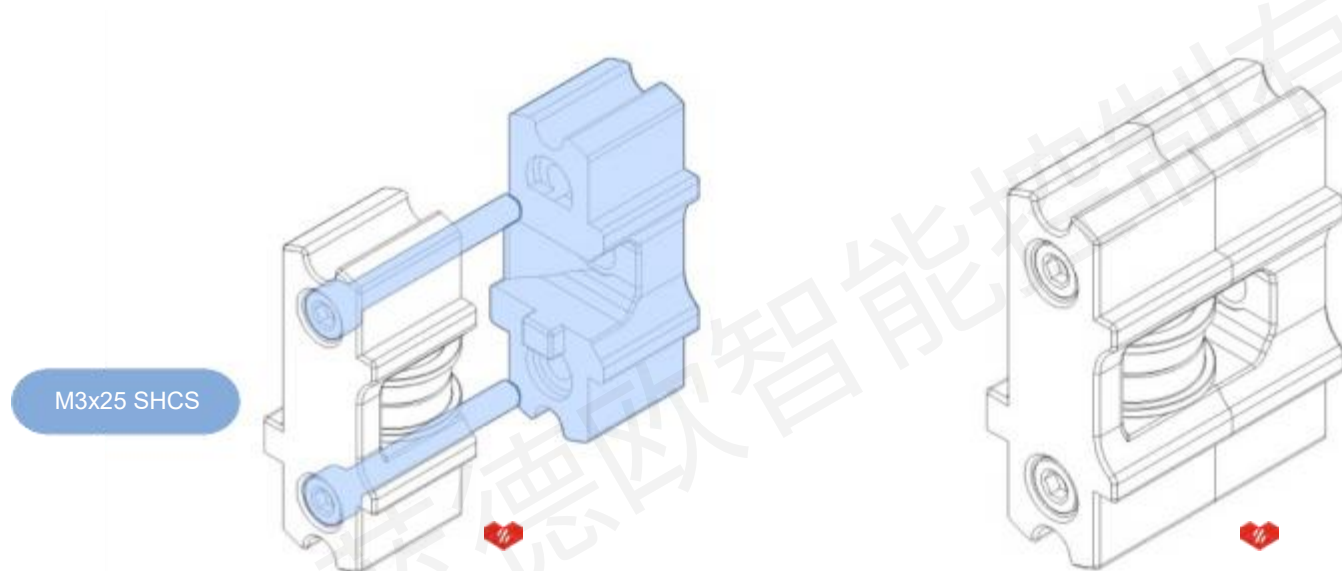


惰轮组装

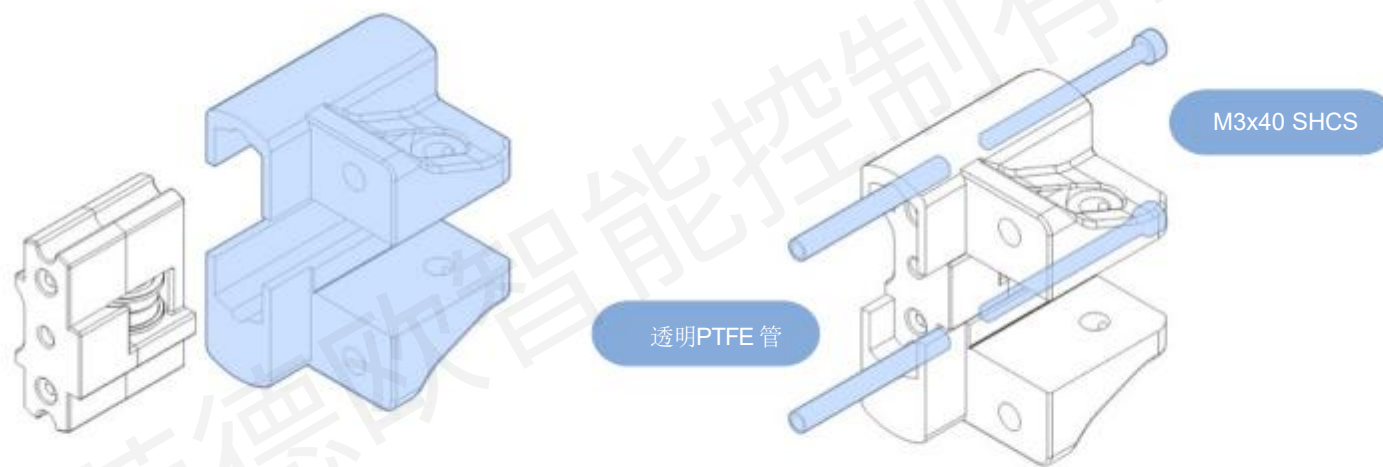


如果插入后出现松动的情况可以在轴承中间放垫片进行调节

惰轮组装



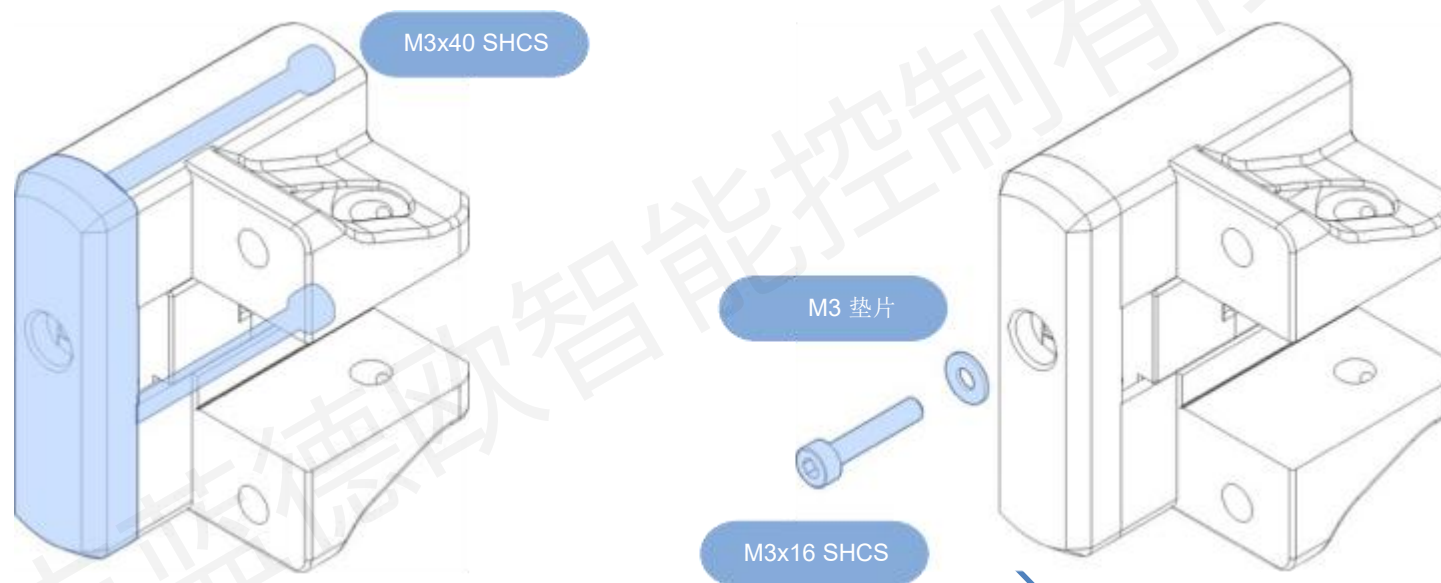
惰轮组装



PTFE 管

使用外径为4毫米、内径为3毫米的PTFE管。用切割工具将其裁切成35毫米长。

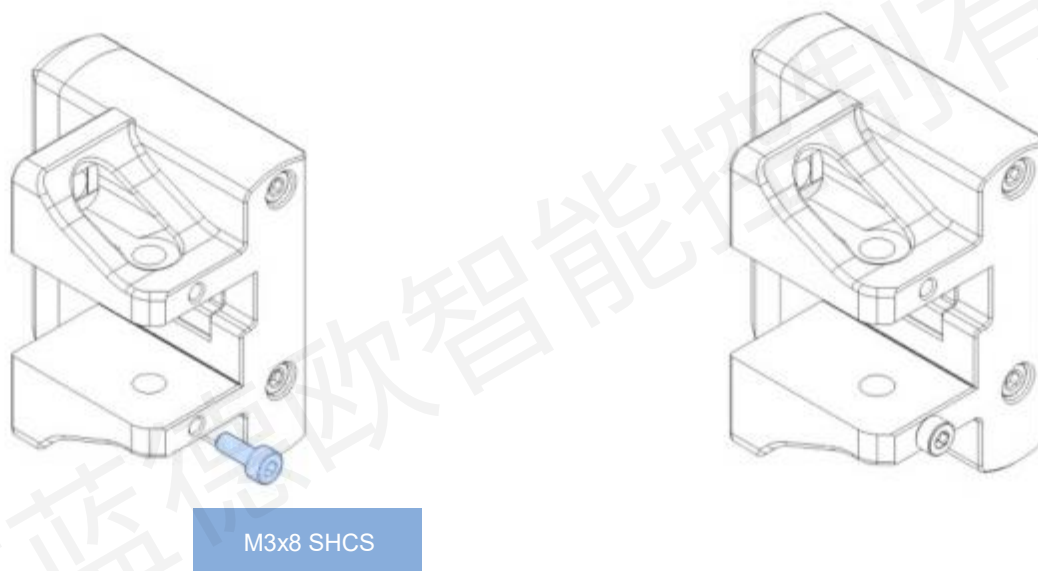
惰轮组装



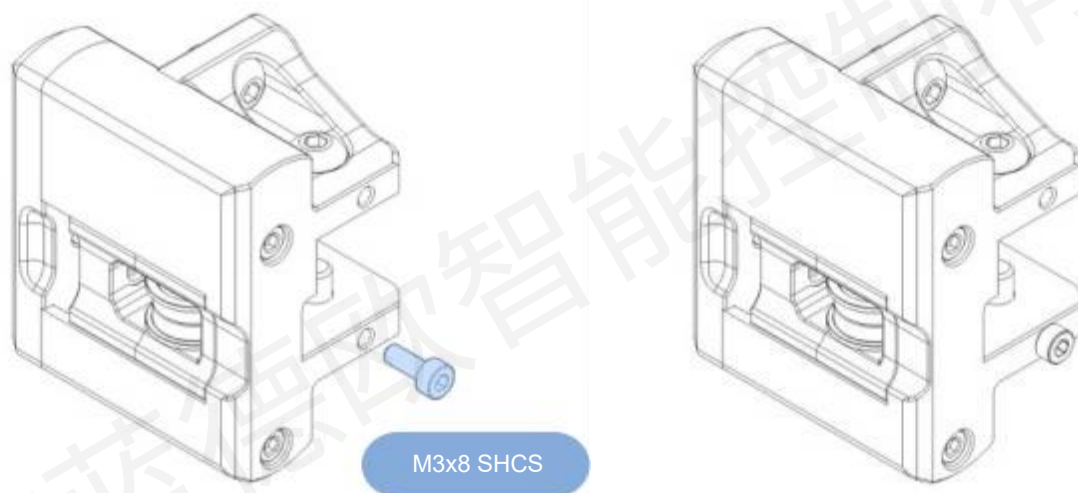
注意：别忘了加垫片
垫片可防止螺钉头在拉力作用下使塑料发生变形。

M3×16mm杯头内六角螺丝不要拧的过紧，根据
螺丝可以调整皮带的松紧程度

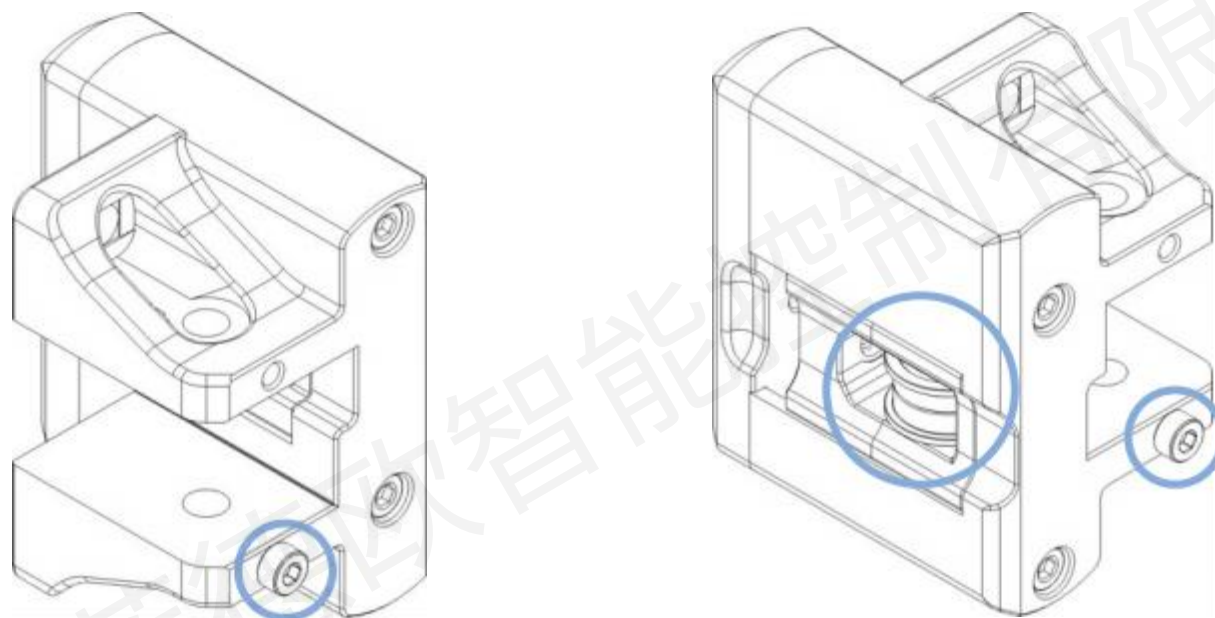
A惰轮（右）



B 惰轮（左）



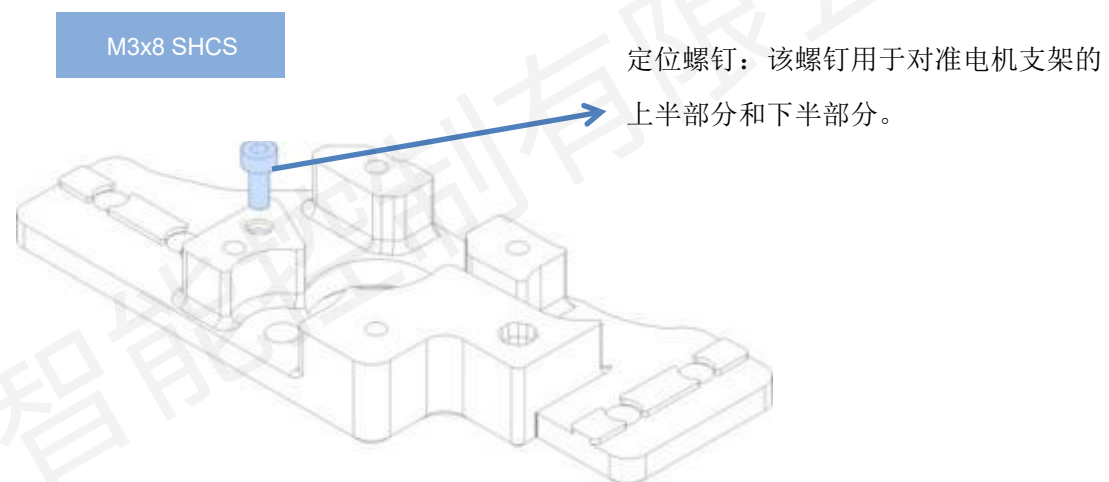
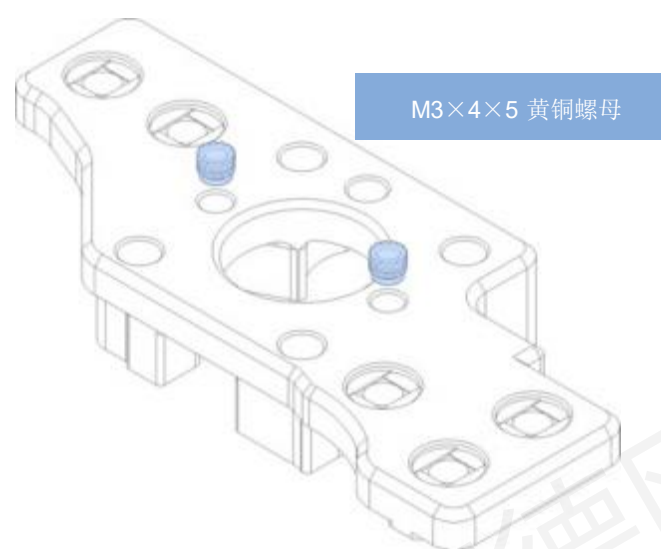
惰轮组装检查



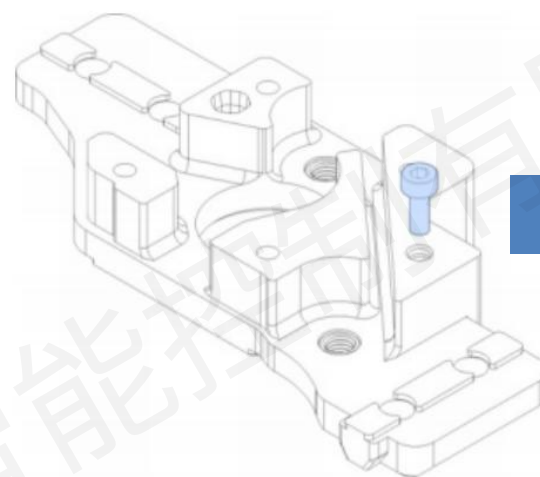
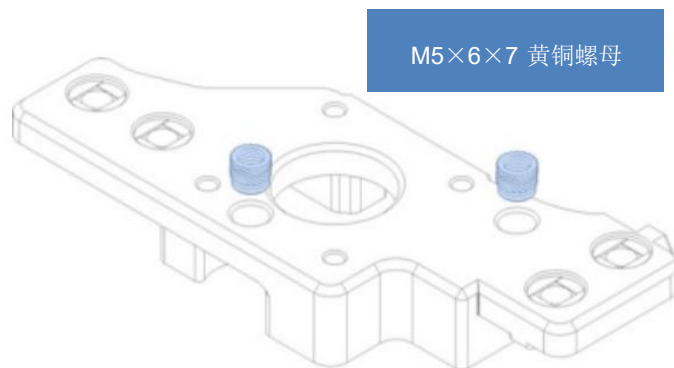
检查工作：

将组装好的部件与此处所示的图形进行比较。注意圆圈标出的特征，
并确认支架能够自由移动，无卡滞现象。

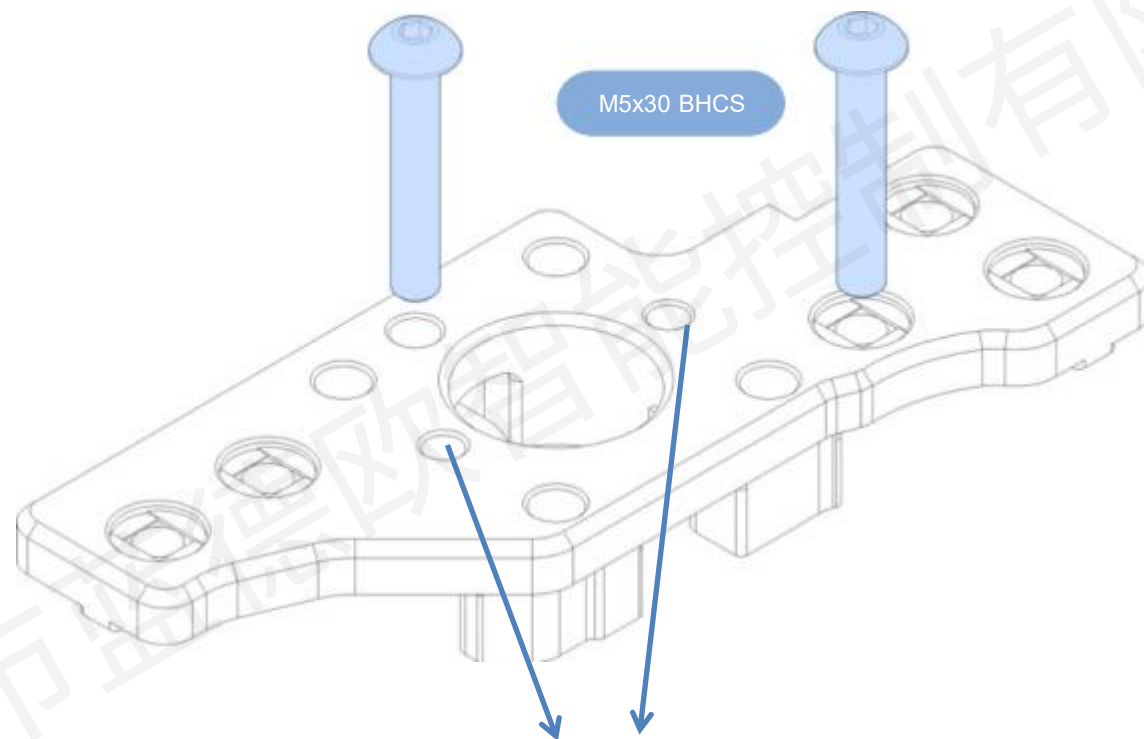
A 驱动组件安装



A 驱动组件安装



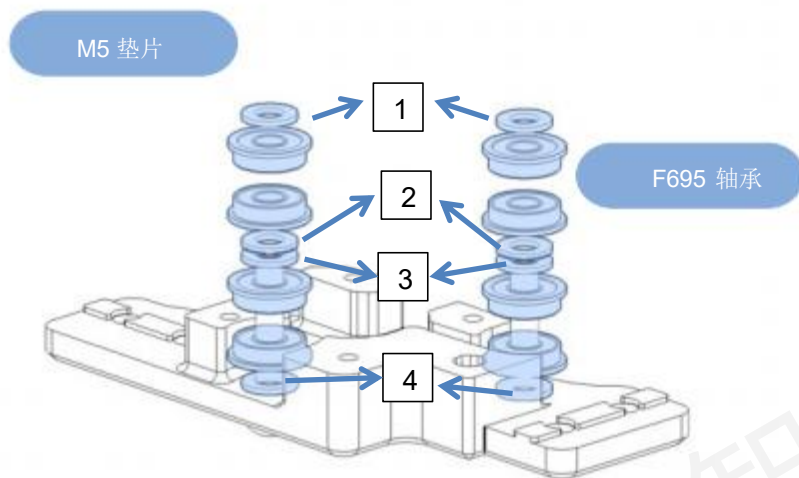
A 驱动组件安装



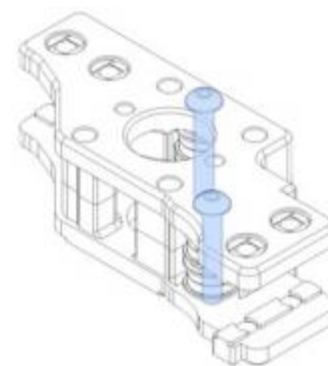
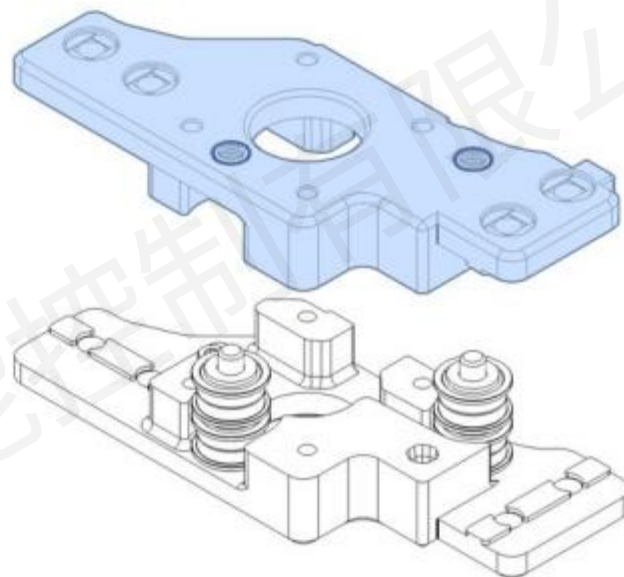
这里已经嵌入螺母

A 驱动组件安装

将组件反过来便于安装

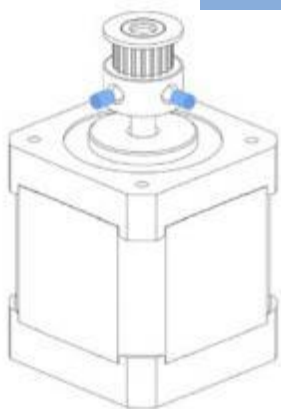


每根螺丝共四个垫片上下各一个，中间两个



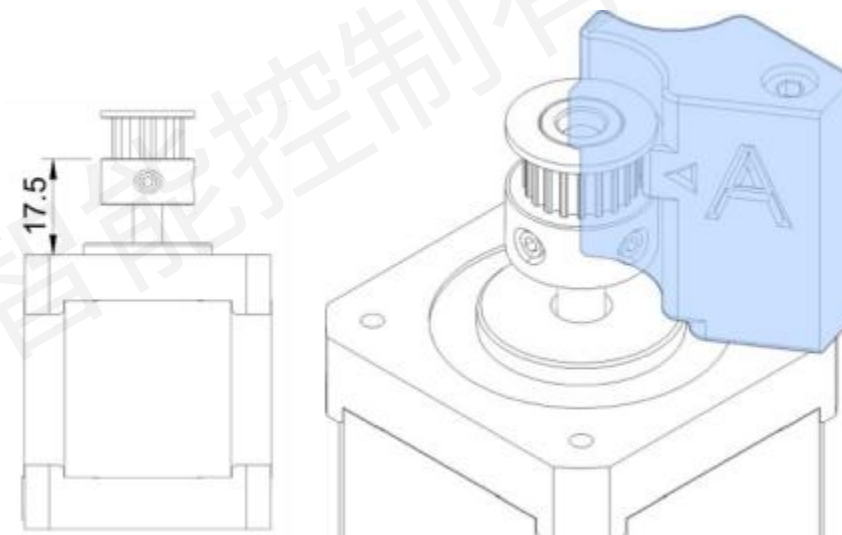
A 驱动组件安装

GT2 20 齿同步轮



NEMA 17步进电机

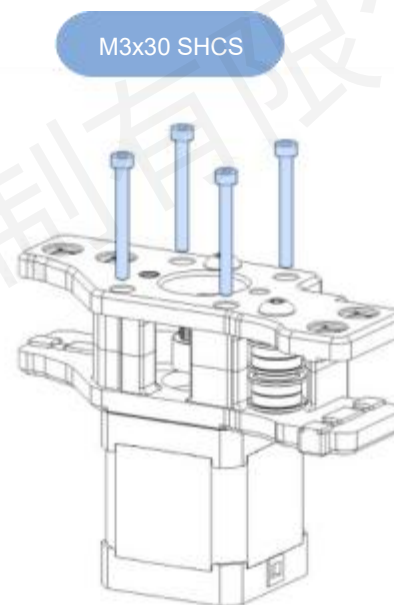
使用治具定位同步轮如图所示。



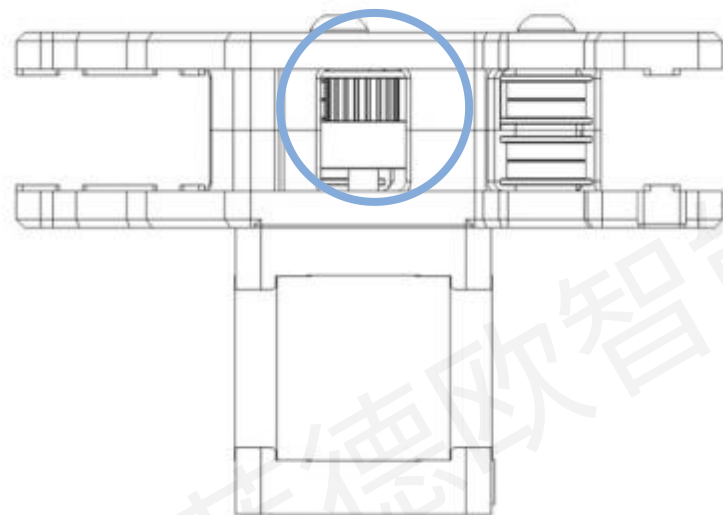
A 驱动组件安装



电机出线方向：
注意线缆出口的方向。组装完成后，电机的
电线应相互远离，并朝向打印机外部。



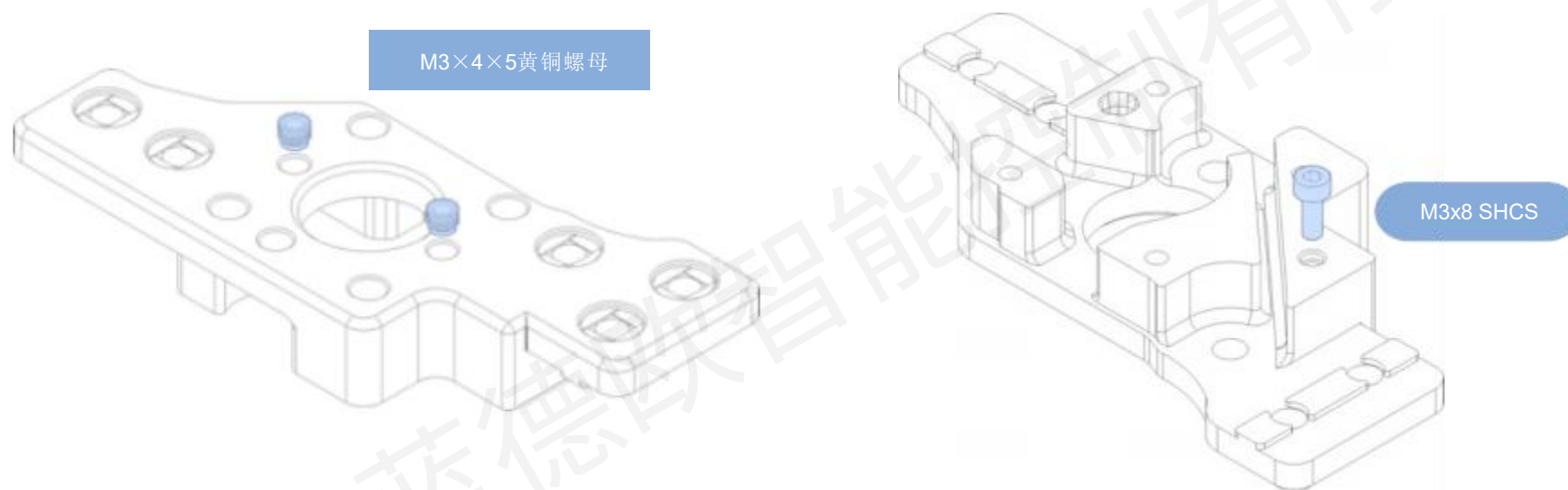
检查A驱动电机组装



检查工作

将组装完成的部件与图示对照检查，留意皮带轮的安装朝向，以及其与轴承堆叠的对位精度。

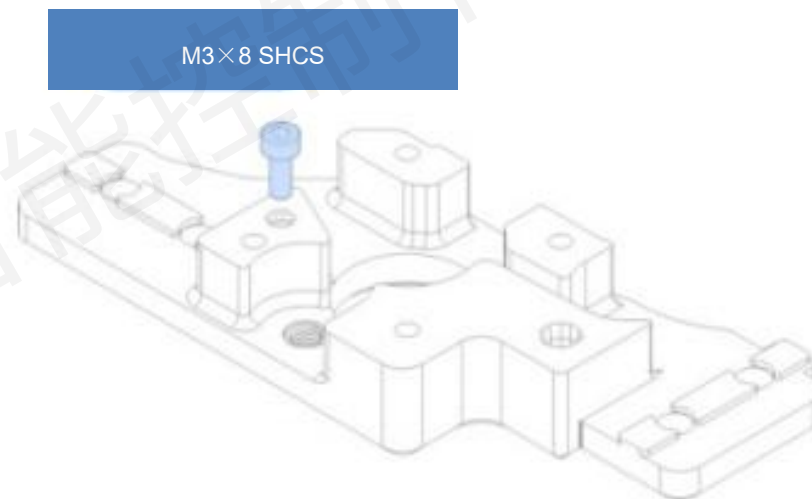
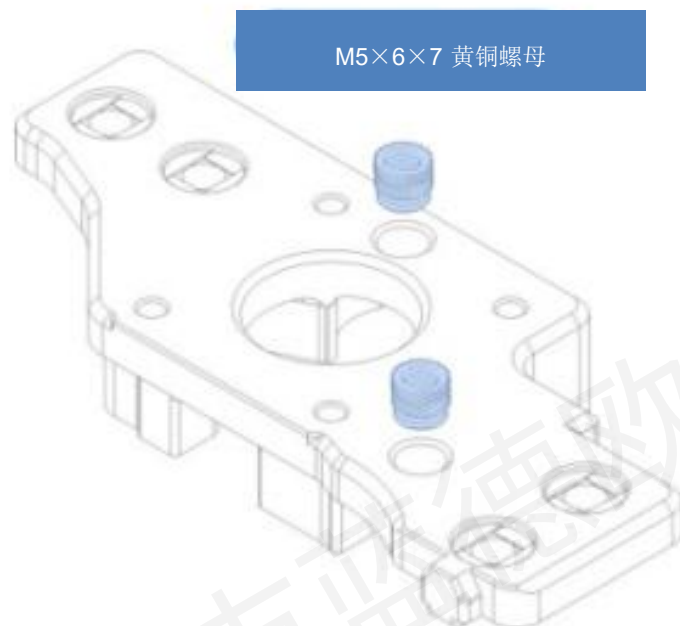
B 驱动组件安装



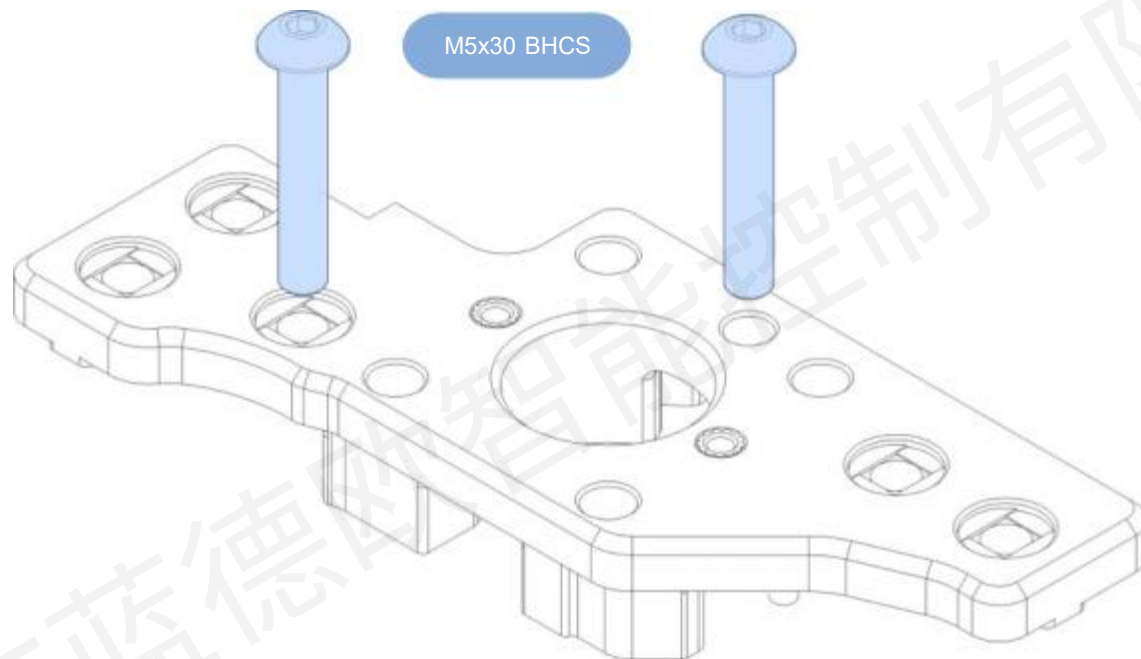
定位螺丝

该螺钉用于对准电机支架的上半部分和下半部分。

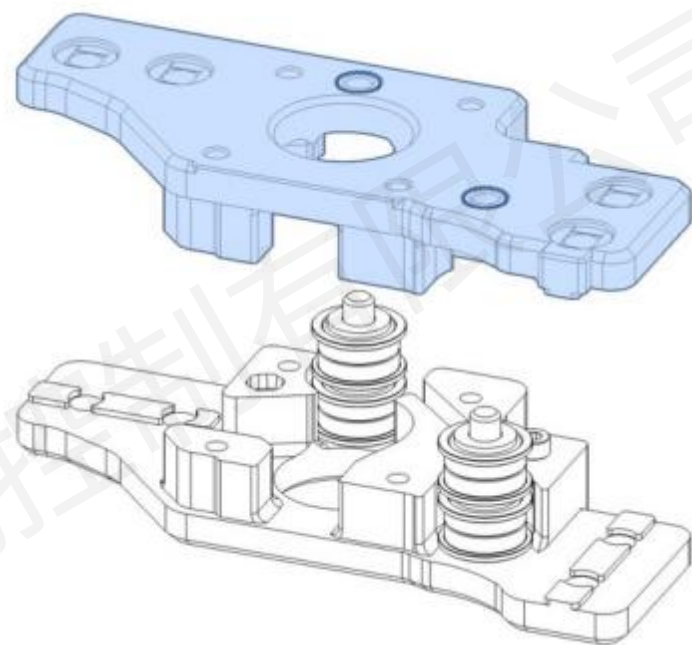
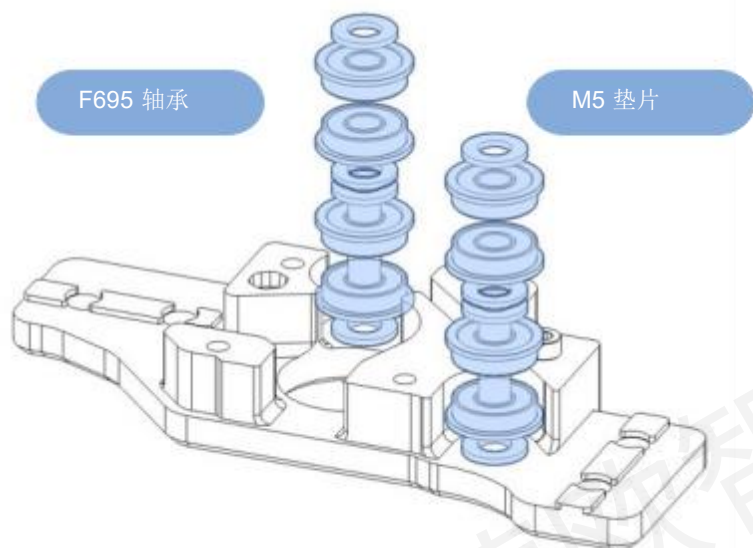
B 驱动组件安装



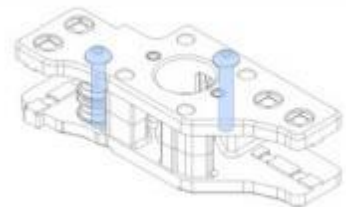
B 驱动组件安装



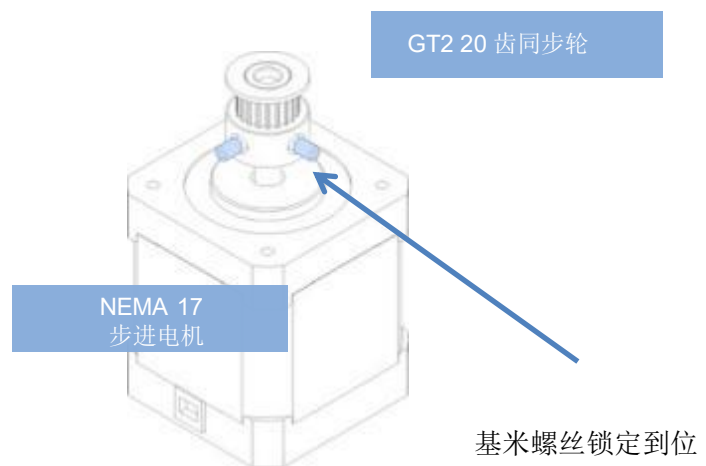
B 驱动组件安装



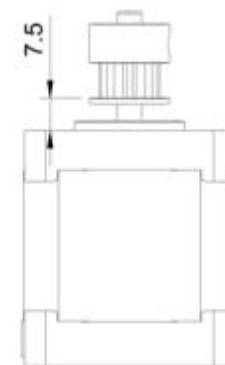
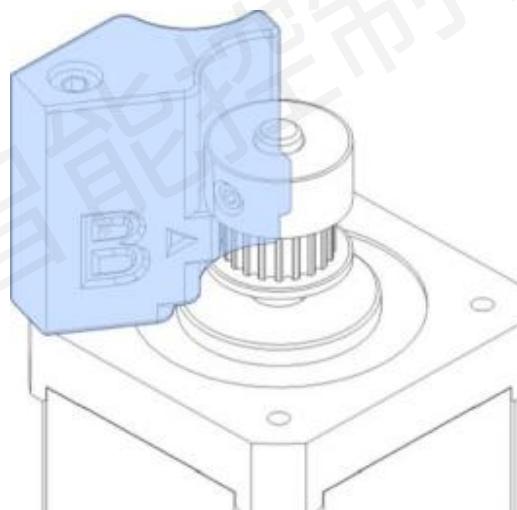
倒置组装：为便于组装，我们建议将A和B驱动器倒置安装



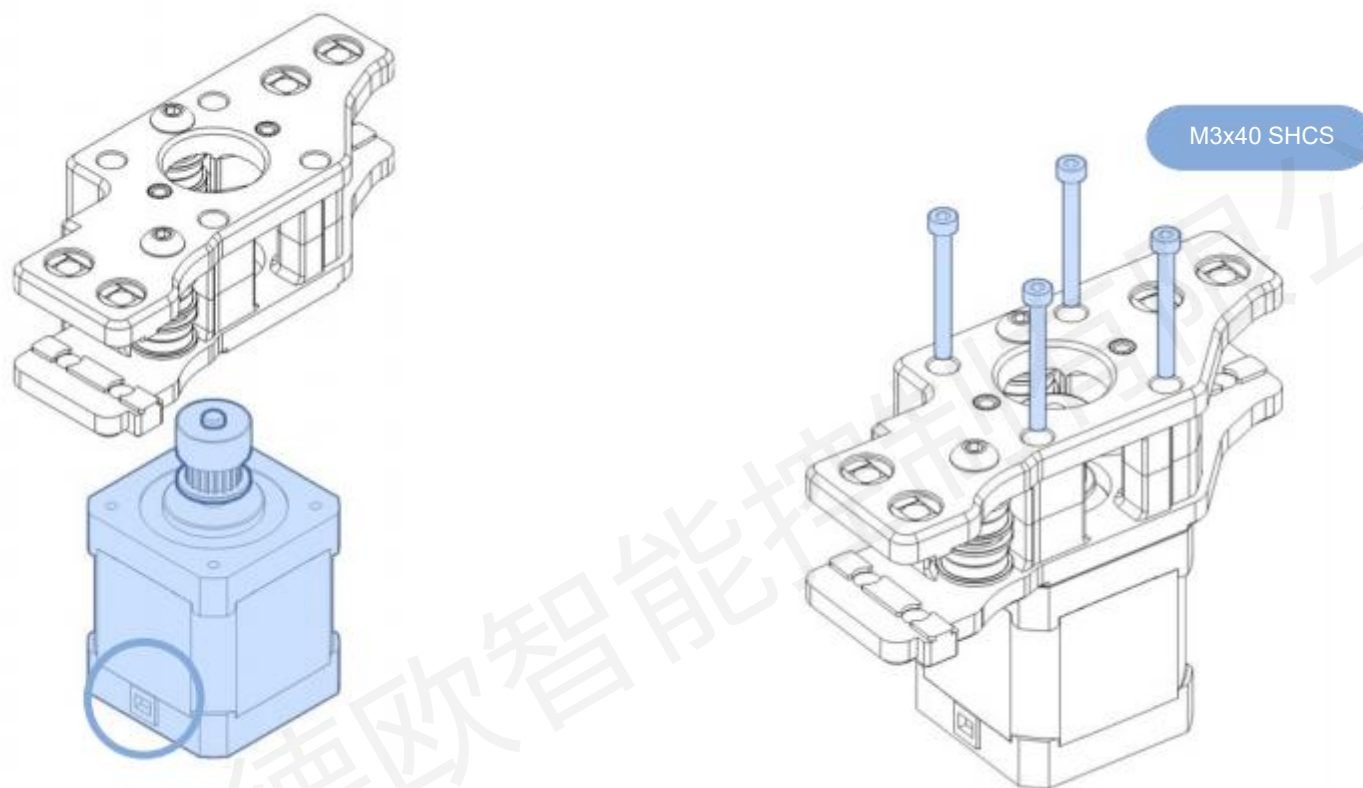
B 驱动组件安装



使用治具定位同步轮如图所示



B 驱动组件安装

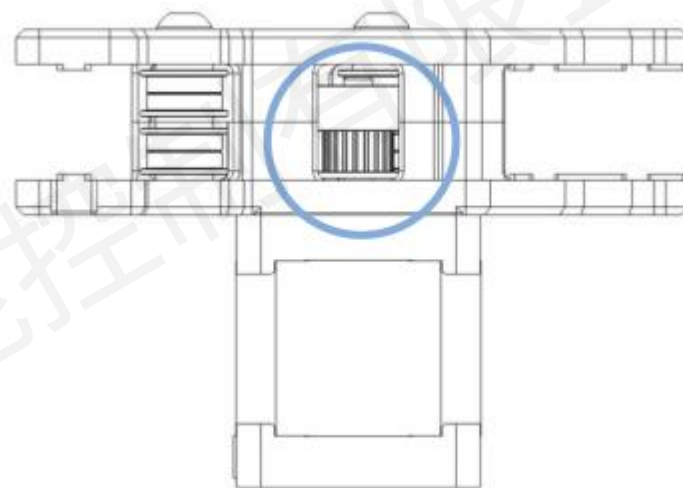


电机方向

注意线缆出口的方向。组装完成后，电机的电线应彼此远离，并朝向打印机外部。

B 驱动组件安装

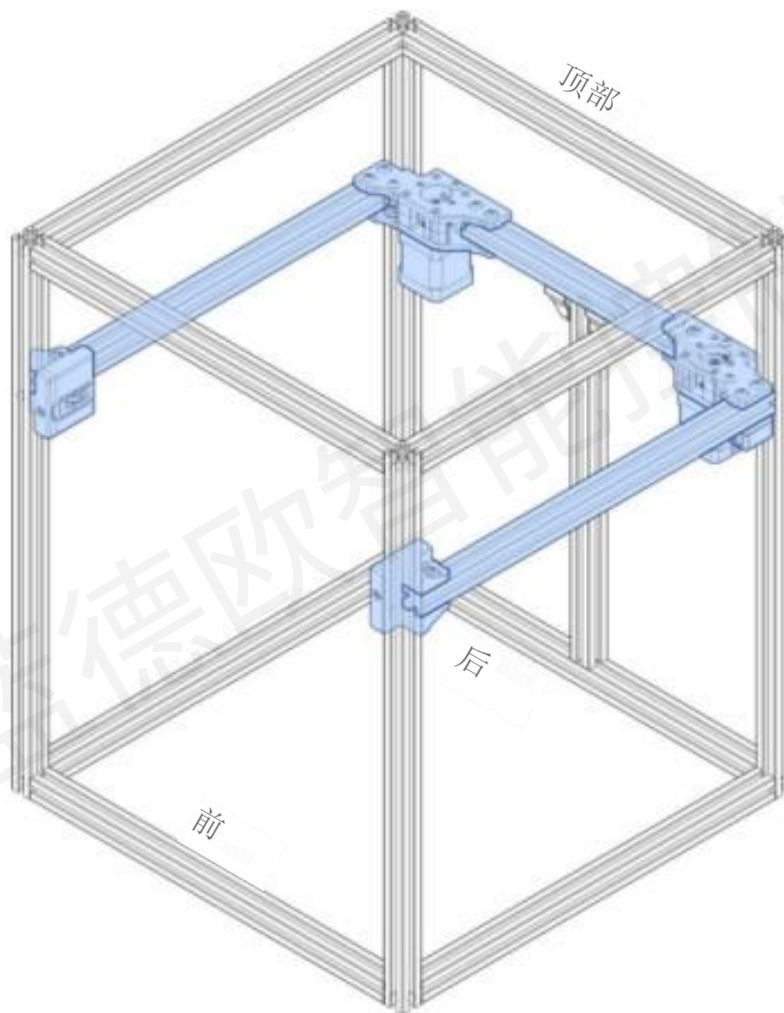
检查工作
将您组装好的部件与此处所示的图形进行比较。
请注意皮带轮的方向及其与轴承堆叠的对齐情况。



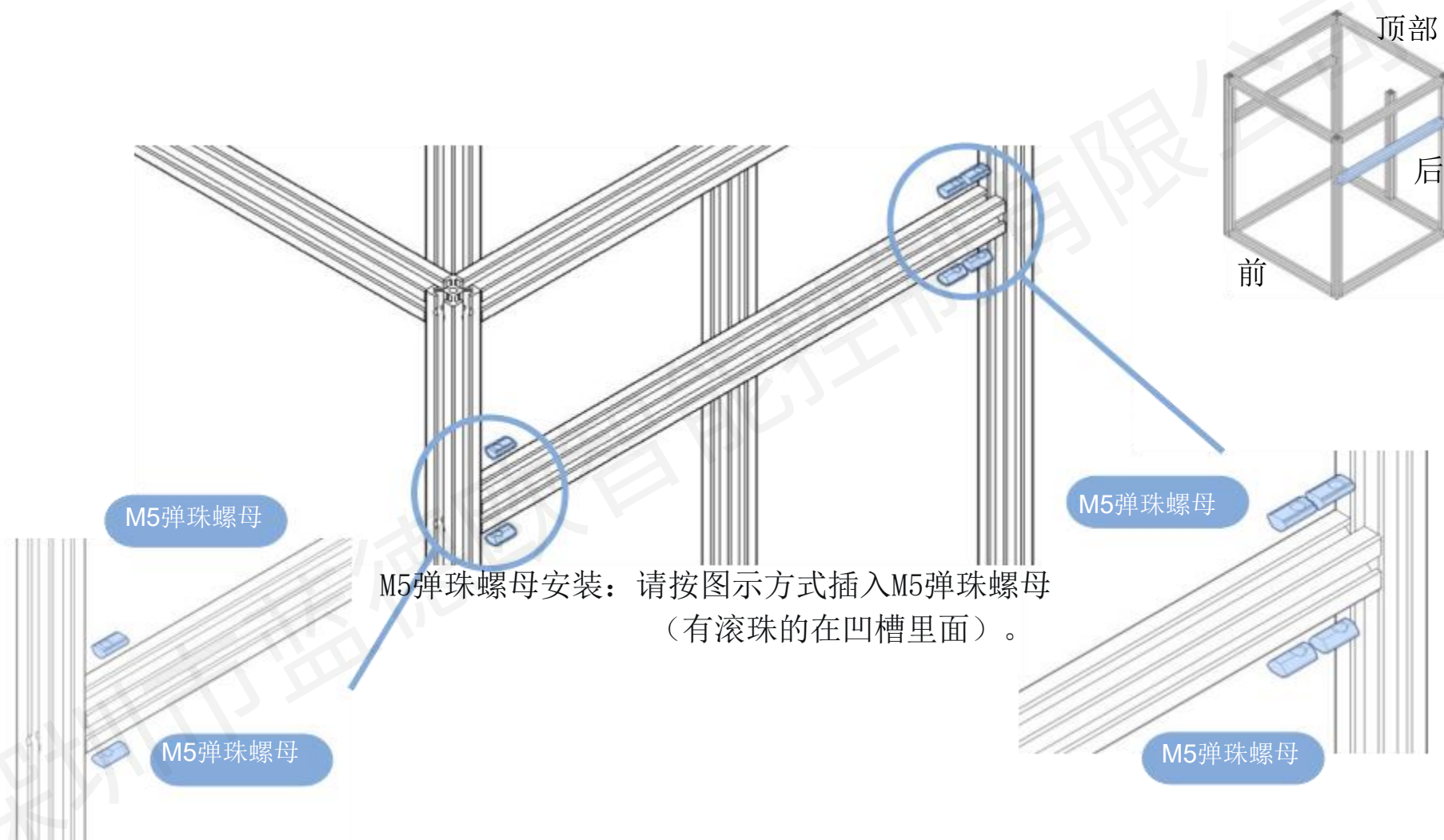
Y 轴



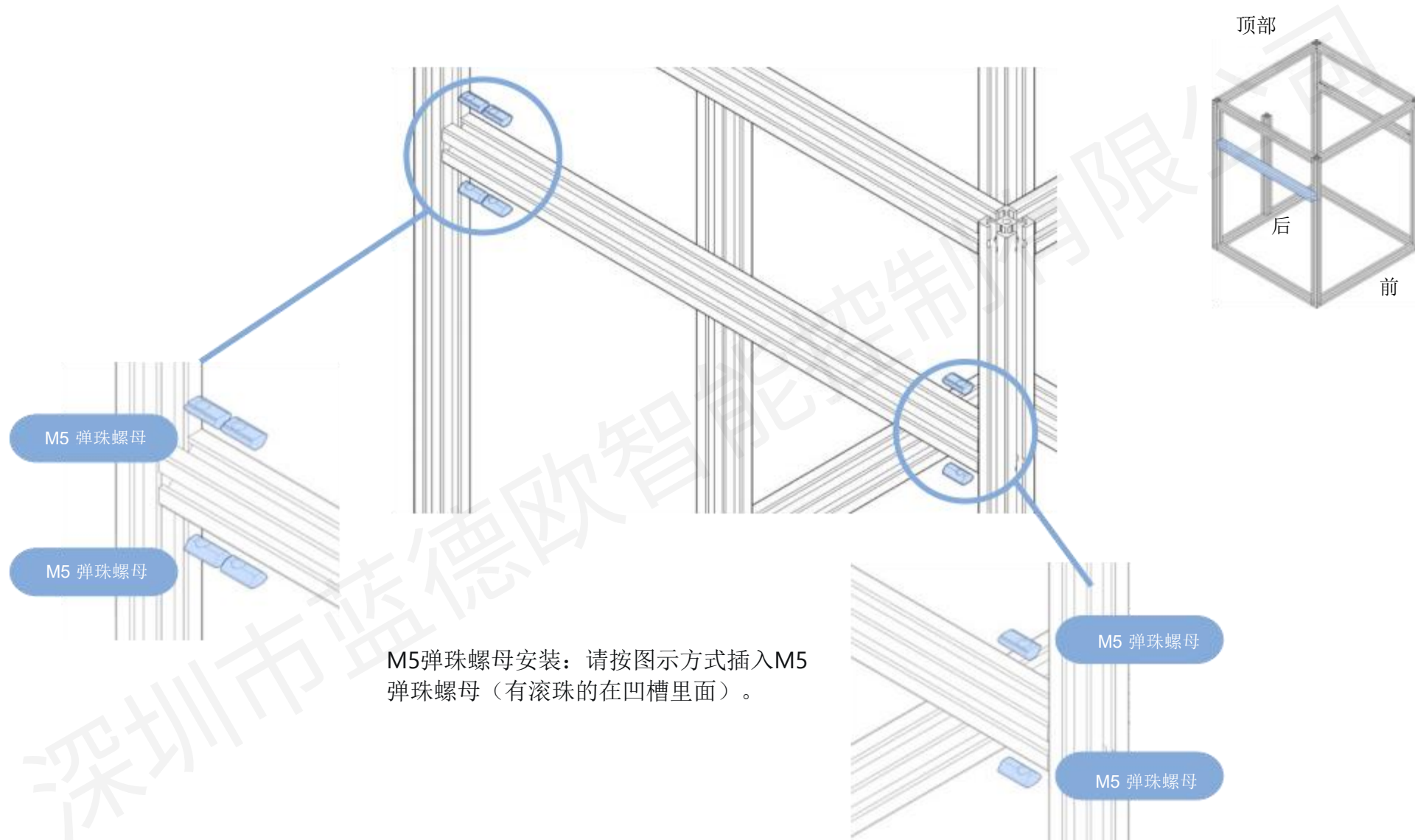
概述



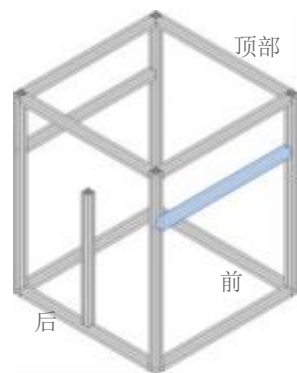
Y 轴



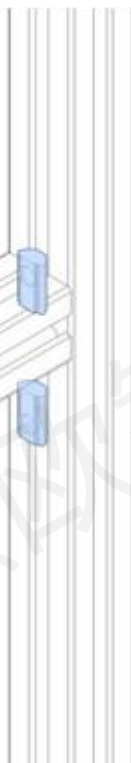
Y 轴



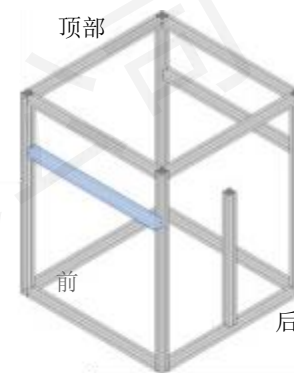
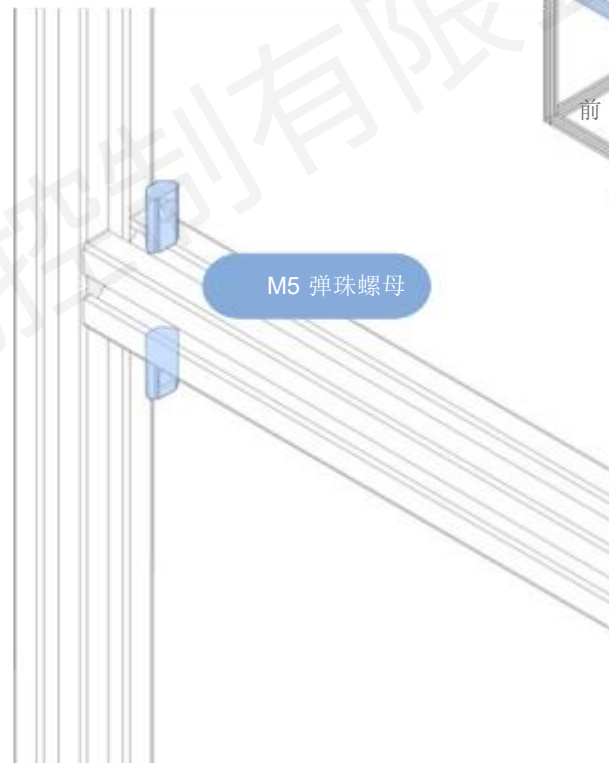
Y 轴



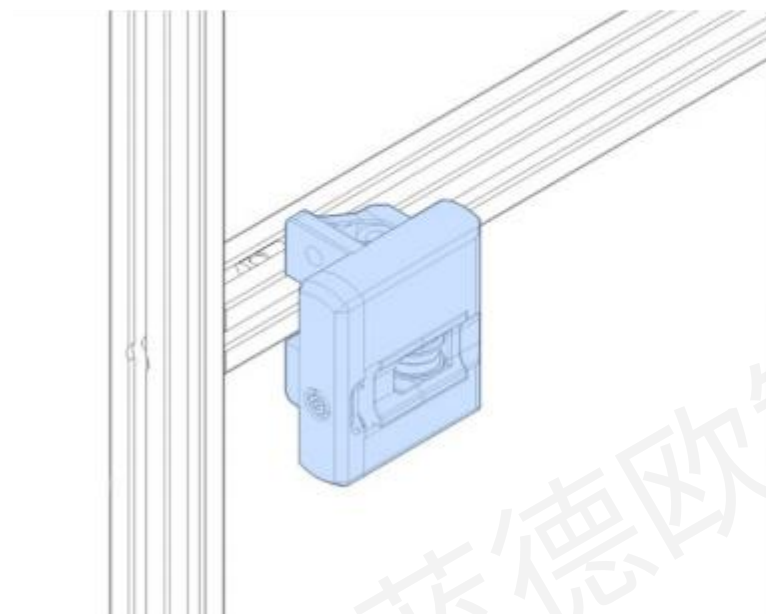
M5 弹珠螺母



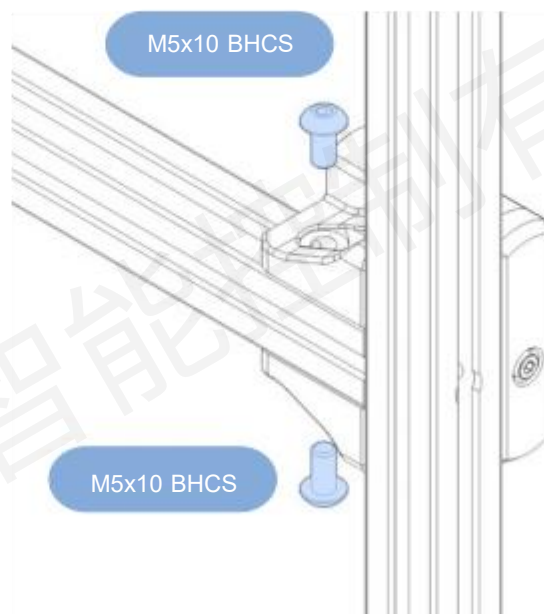
M5 弹珠螺母



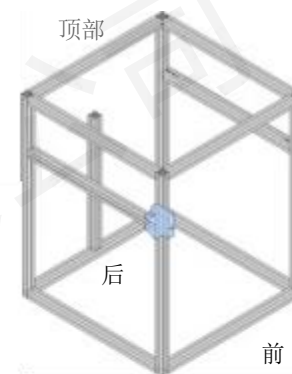
Y 轴



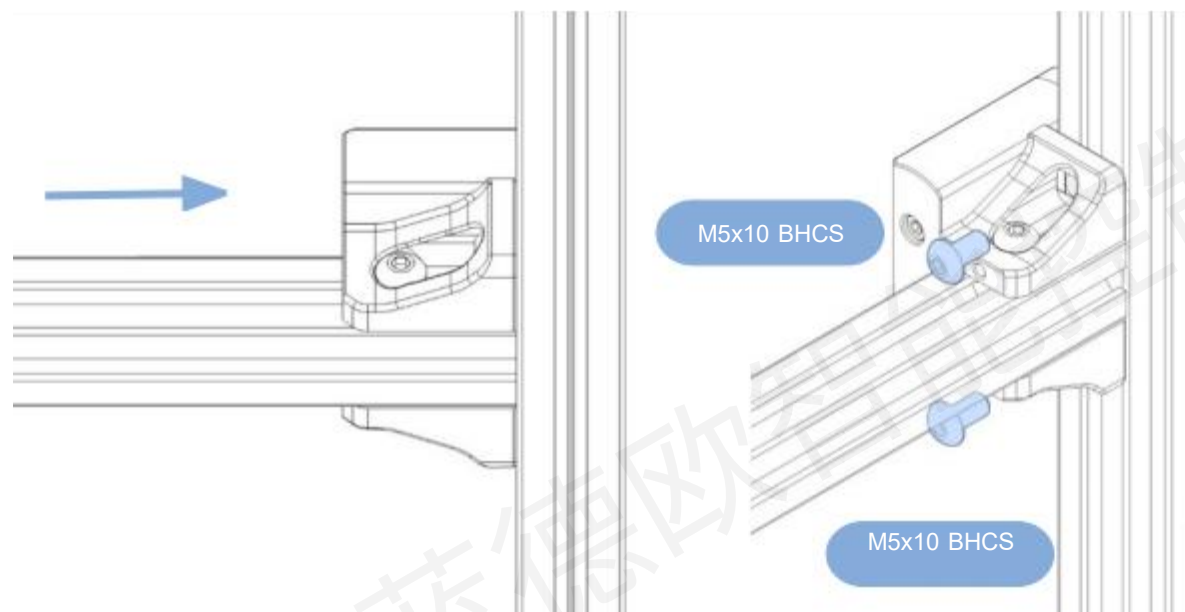
惰轮方向
您之前安装在前轮挡板上的导轨固定螺丝，需安装在型材的底部。



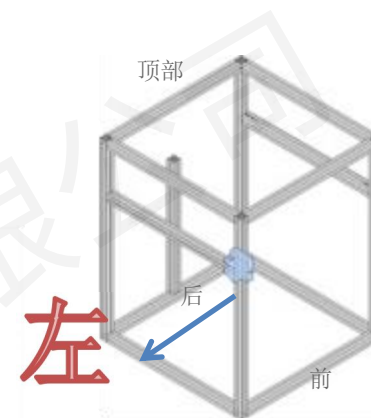
注意螺丝不要完全拧紧保持M5×10mm盘头螺丝略微松动，
以便前轮可以滑入到位



Y 轴

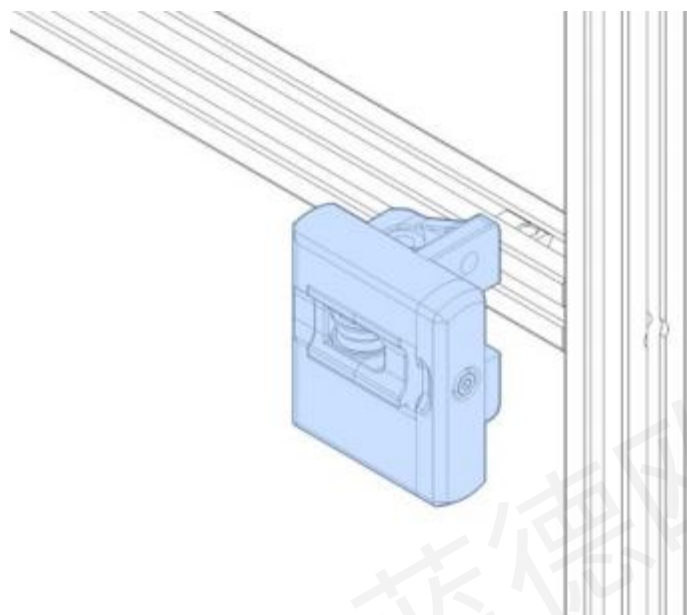


滑动到位
将前轮对准垂直型材并锁定到位，然后拧紧所有部件。

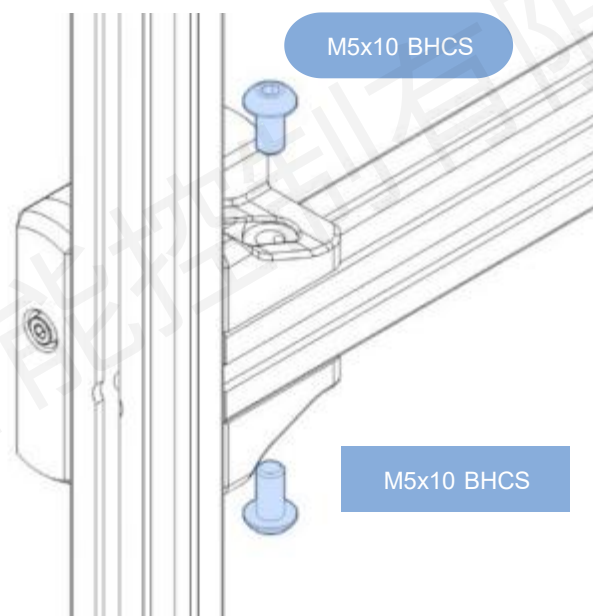


站在打印机的前面且面对打印机时的左

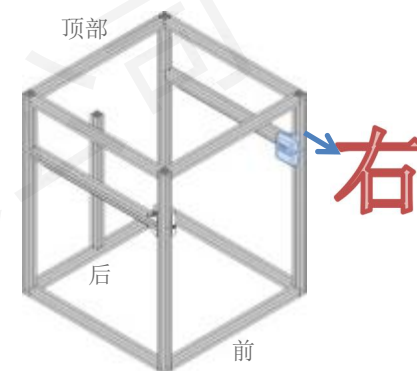
Y 轴



惰轮方向
您之前安装在前轮挡板上的导轨固定螺丝，需安装在型材的底部。

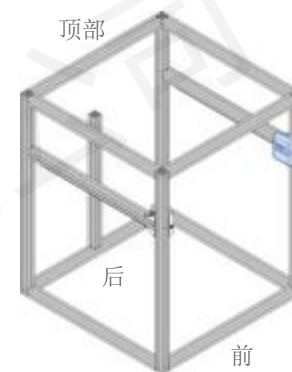
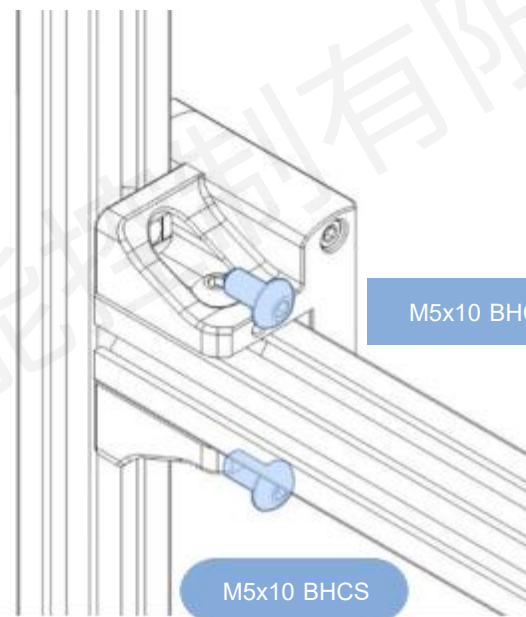
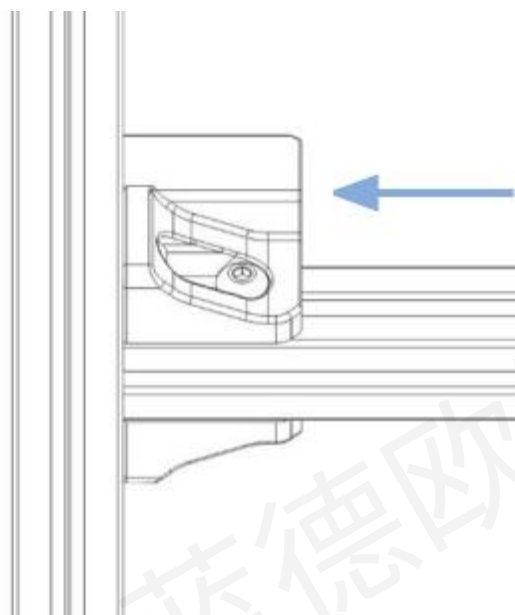


注意螺丝不要完全拧紧保持M5×10mm盘头螺丝略微松动，以便前轮可以滑入到位



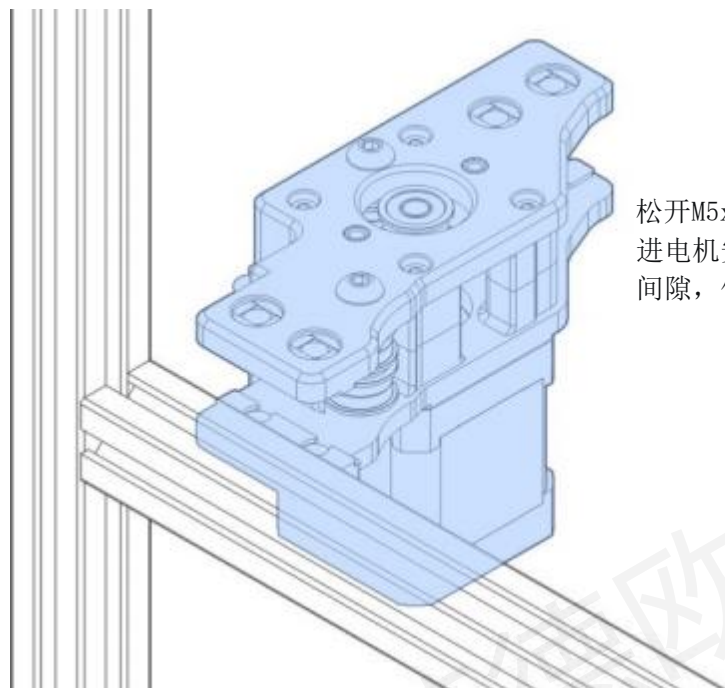
站在打印机的前面且
面对打印机时的右

Y 轴

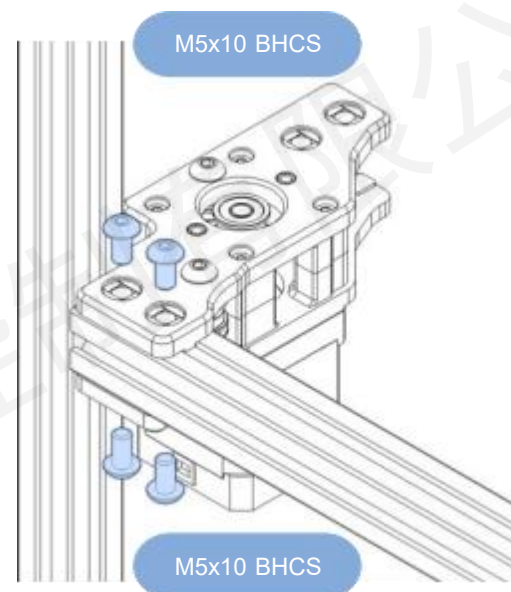


滑动到位
将前轮对准垂直型材并锁定到位，然后拧紧所有部件。

Y 轴

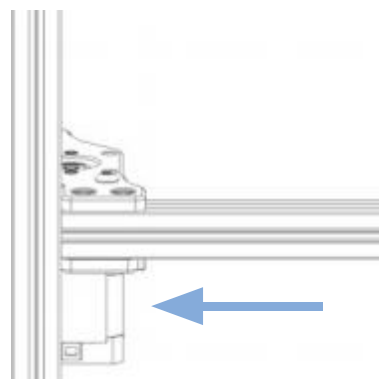


松开M5x30mm的惰轮堆叠螺钉和步进电机安装螺钉，以获得足够的间隙，使设备能够滑入型材。



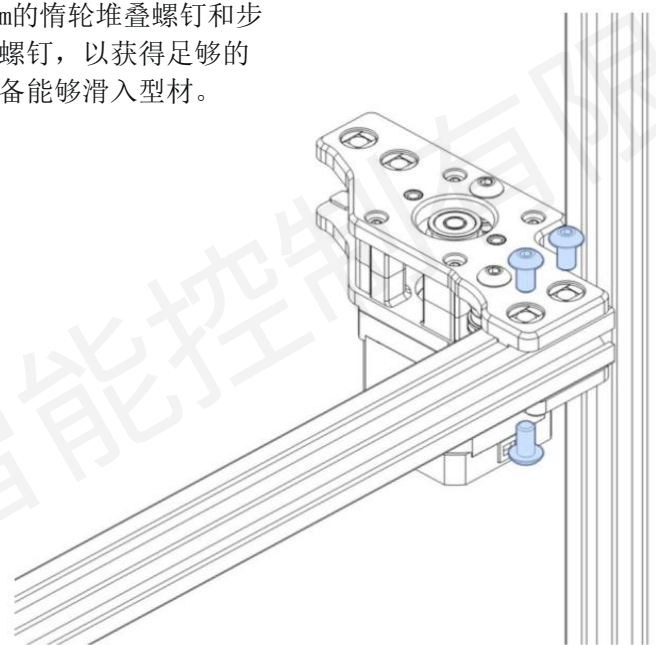
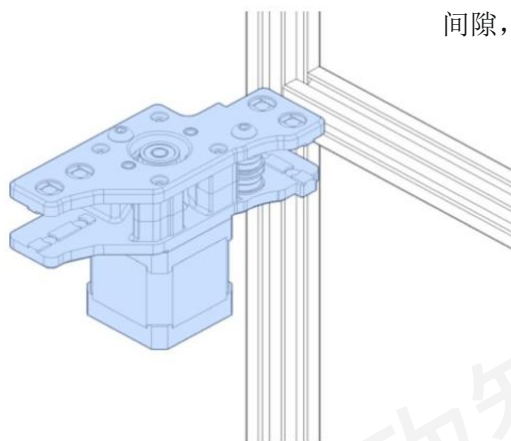
滑动到位

将四个M5x10螺丝稍微松开，将电机固定在垂直位置上，然后拧紧螺丝。



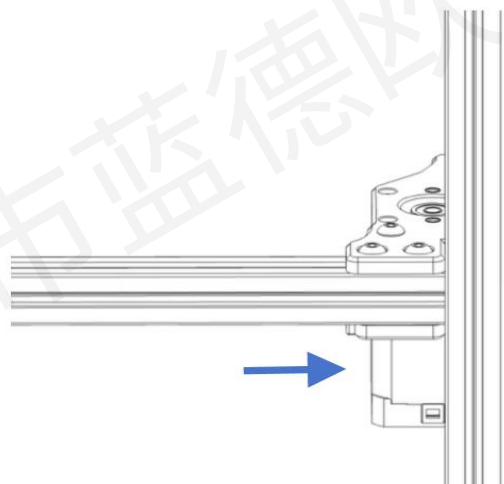
Y 轴

松开M5x30mm的惰轮堆叠螺钉和步进电机安装螺钉，以获得足够的间隙，使设备能够滑入型材。



滑动到位

将四个M5x10螺丝稍微松开，将电机固定在垂直位置上，然后拧紧螺丝。

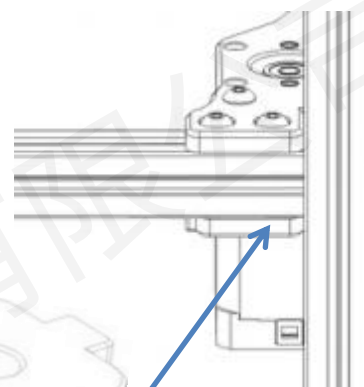


Y 轴

选择XY限位开关PCB 如果在XY接头使用可选的XY限位开关PCB板，请使用此限位开关挡块。可通过螺丝调节触发点。

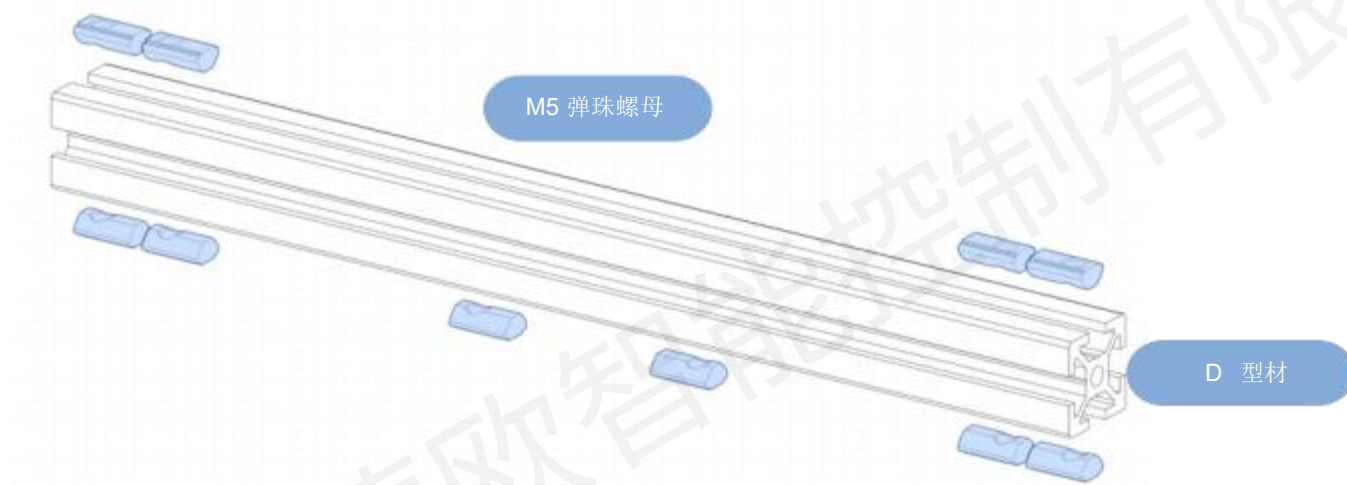


该触发装置放在A电机所在侧

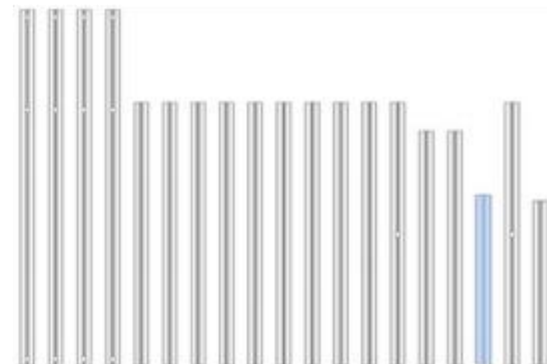


M5×16 BHCS

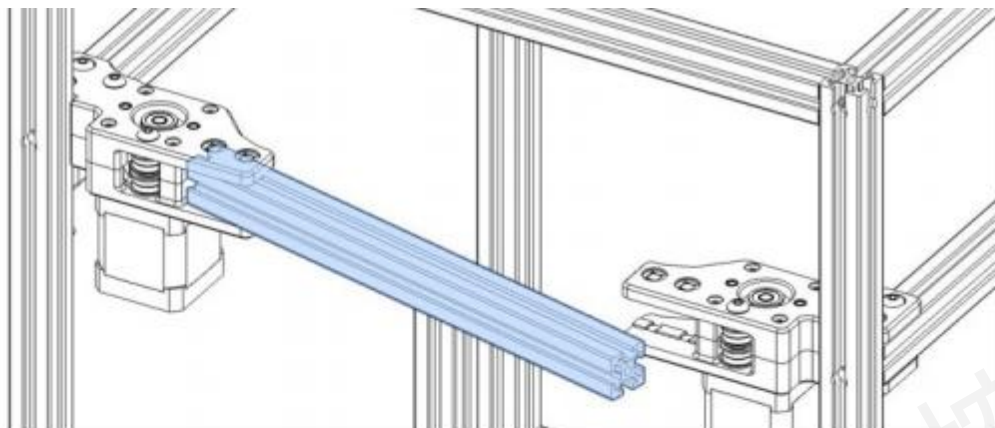
后防撞梁



弹珠螺母安装方向：请按图示所示插入弹珠螺母

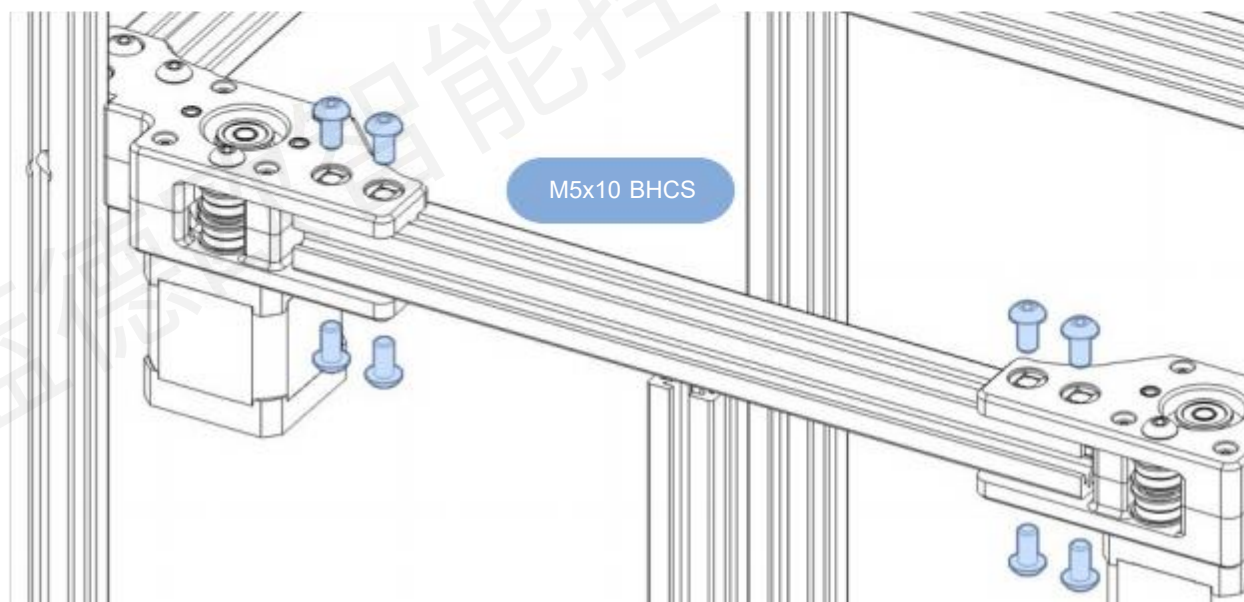


后防撞梁

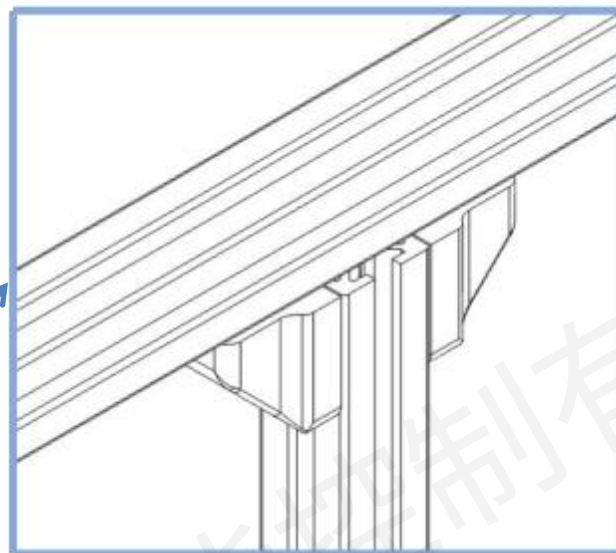
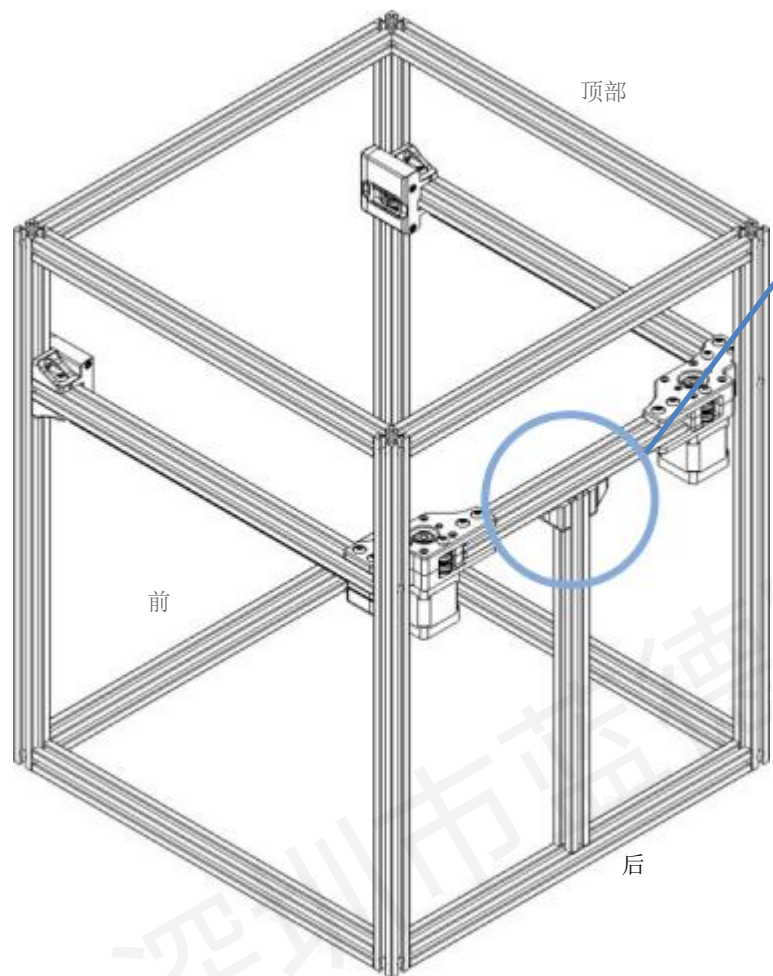


滑入位置：

后部横杆可滑入到位。您可能需要暂时松开电机支架上的M3/M5螺钉，以便将挤出部件滑入。

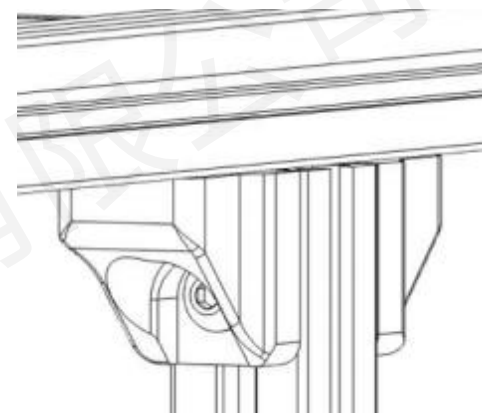


后防撞梁

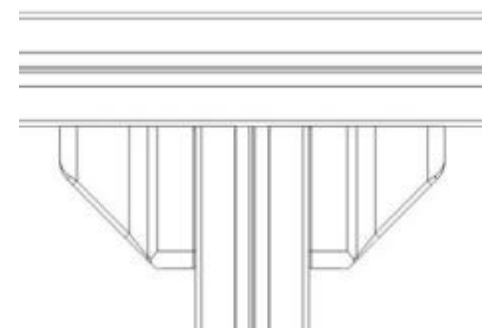


偏移挤出:

A和B驱动之间的挤出方向向内偏移。垂直挤出部分延伸至打印机后方。

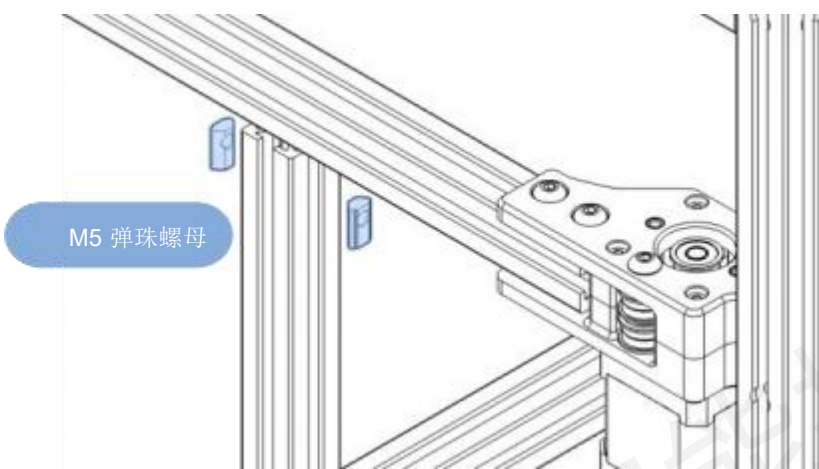


后面（外侧）凸出



前面齐平

后防撞梁

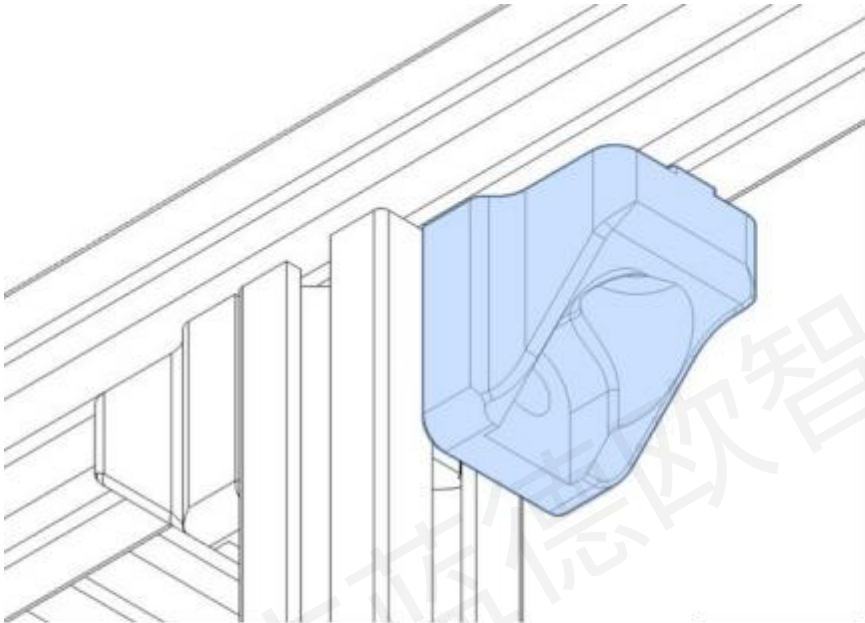


箭头向上，指向龙门挤出方向

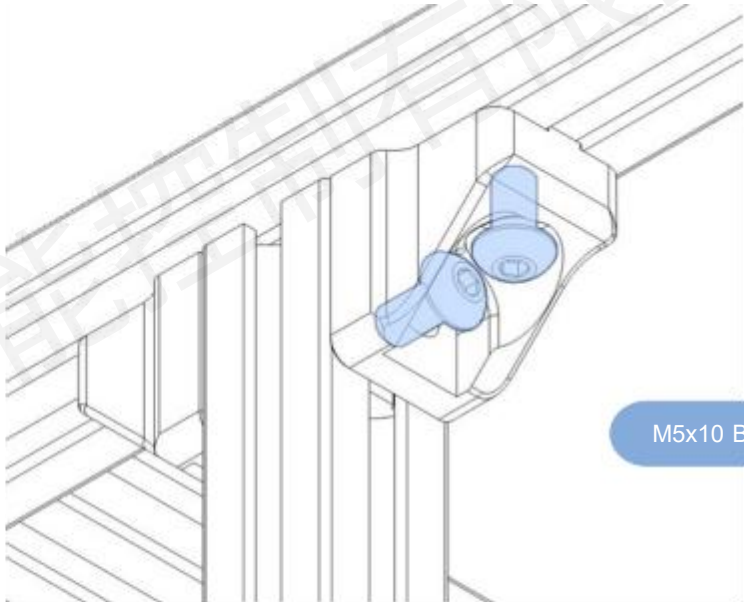


Z 型材

后视图



后视图



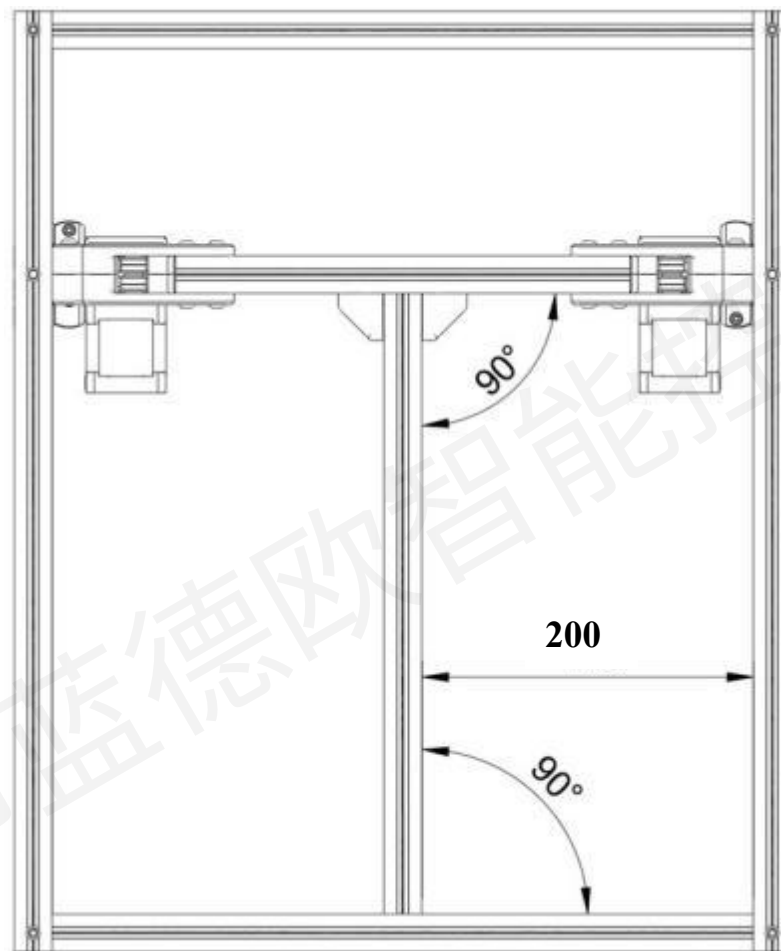
M5x10 BHCS



箭头向上，指向龙门挤出方向

Z 型材

顶部

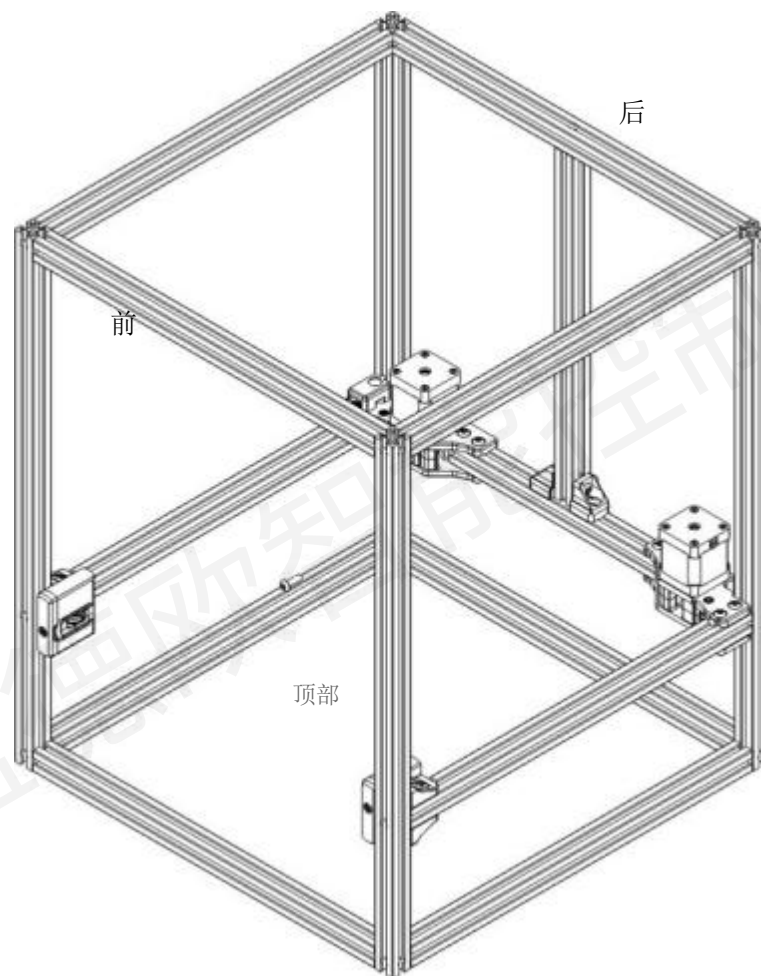


调整:

后部型材的位置，使其与右侧所示尺寸相匹配。确保其与框架立柱平行，并且与两者保持等距。

Y轴

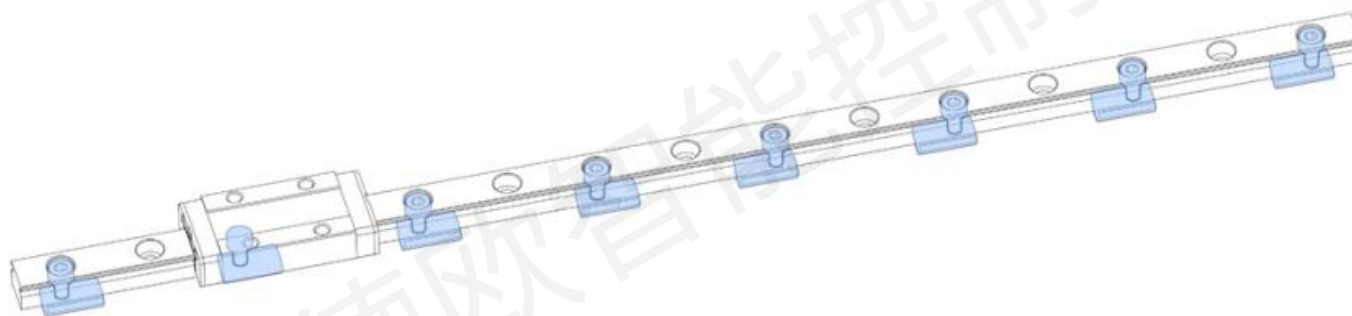
倒置组装 为便于安装，建议在接下来的步骤中将打印机倒置放置。



线性导轨

小心轻放

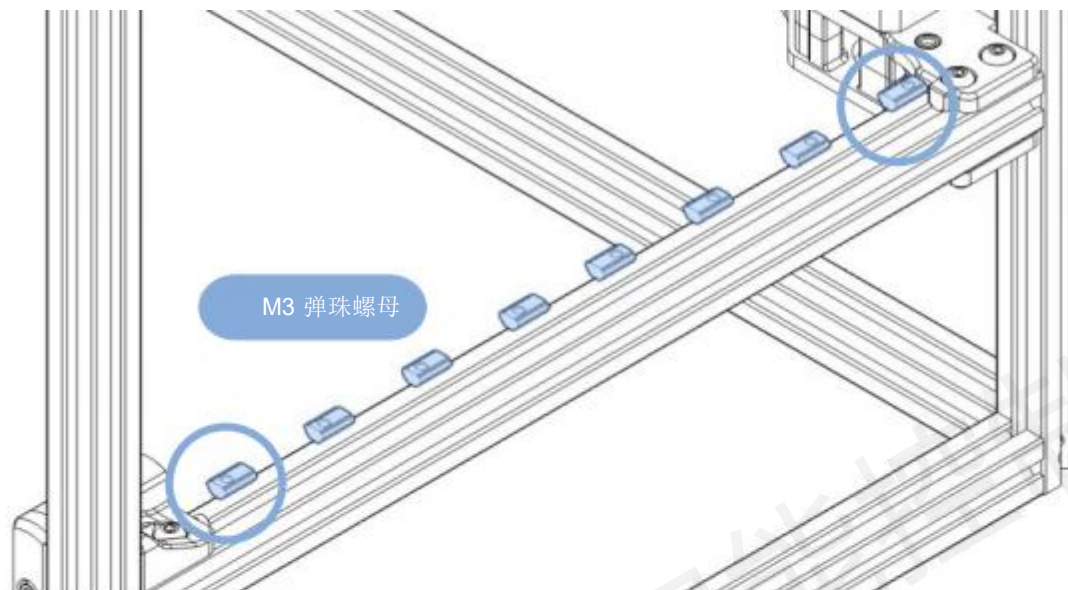
如果操作不当，滑座可能会从轨道上滑脱。掉落 滑块很可能会造成损坏。任何划痕、凹陷或碰撞痕迹都可能导致线性导轨在运行中出现异常。



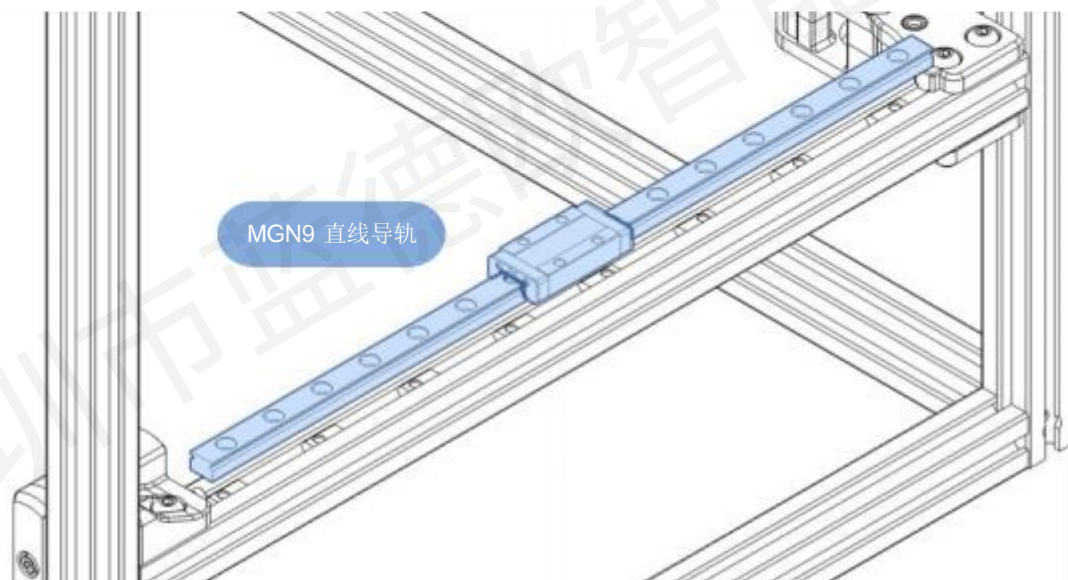
直线导轨 - 准备和安装

- ◆ 在设计此打印机的安装模式时，我们选择在直线导轨上每隔一个安装孔跳过一个。这样既能减少硬件数量，又满足了我们的使用需求。如果您的导轨安装孔数量为偶数，请从外侧向内安装，并在中心螺丝上加倍。
- ◆ 紧固时，应从中心向外进行，以确保导轨与型材紧密贴合。
- ◆ 大多数直线导轨出厂时已涂有运输油。为确保运行顺畅并延长使用寿命，必须清除该油，并重新给导轨和车体上润滑油。

Y 轴



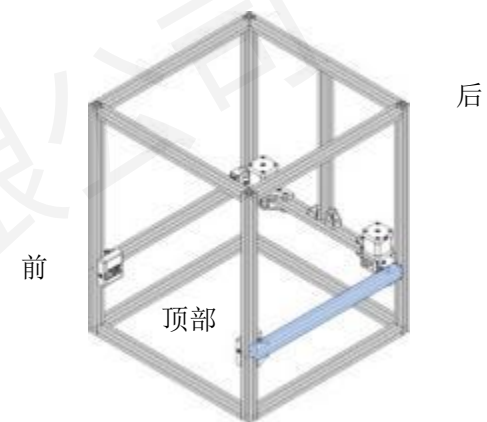
弹珠螺母安装方向：请按图示方式插入弹珠螺母。
导轨上其余的孔位将保持空置。



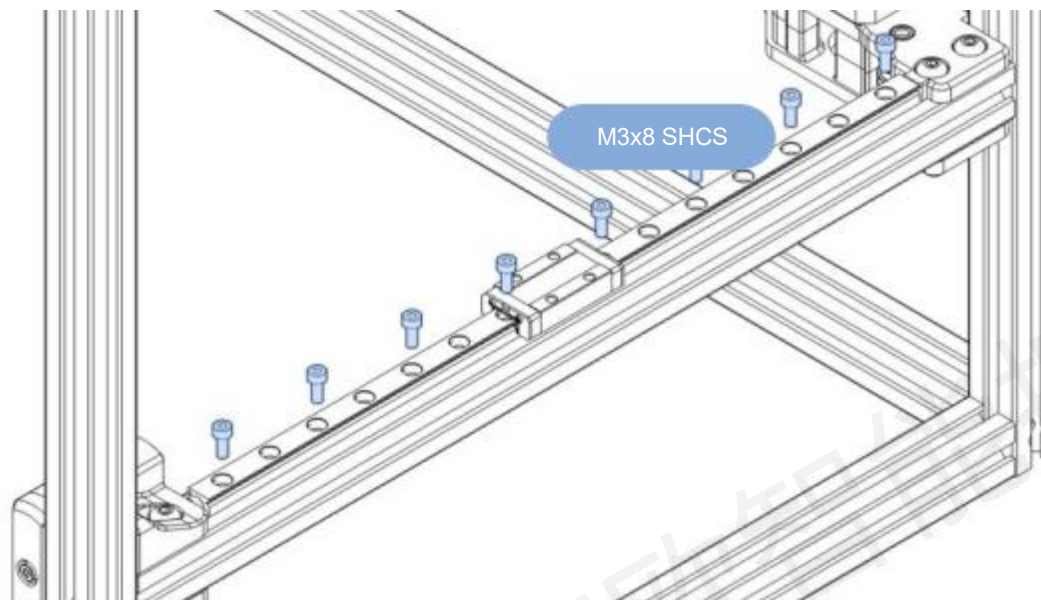
注意滑块位置

滑块可沿导轨顺畅滑动，但也极易从导轨上滑脱。

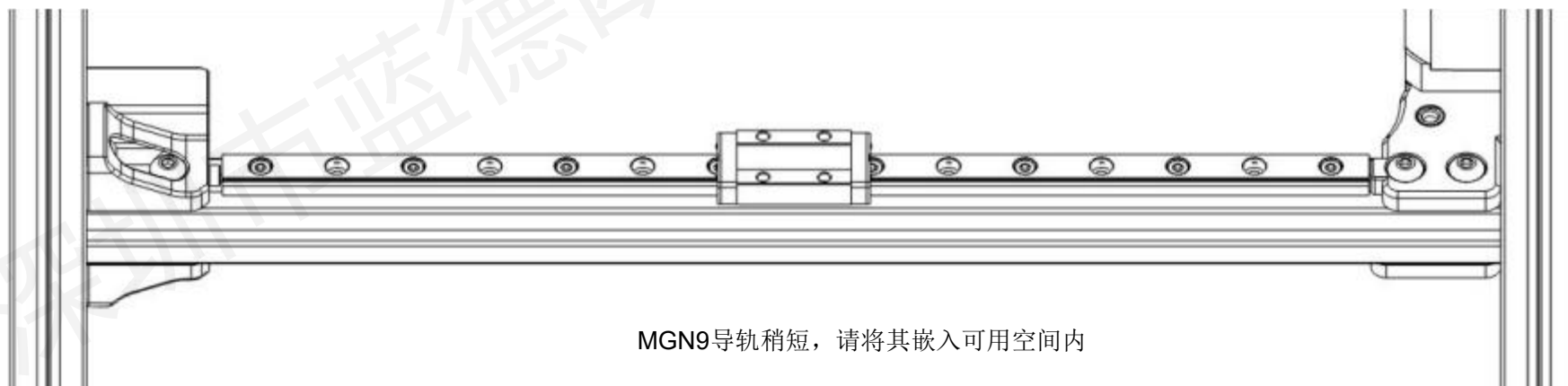
滑块跌落极易造成损坏。（导轨上的滑块标有9H或者12H，
请注意辨别）



Y 轴

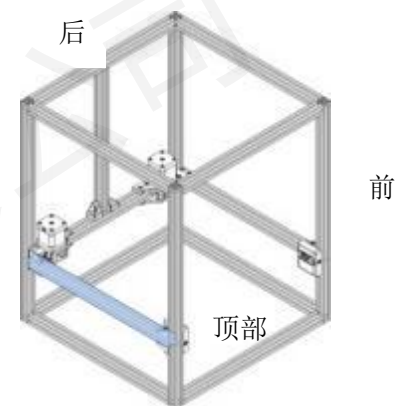
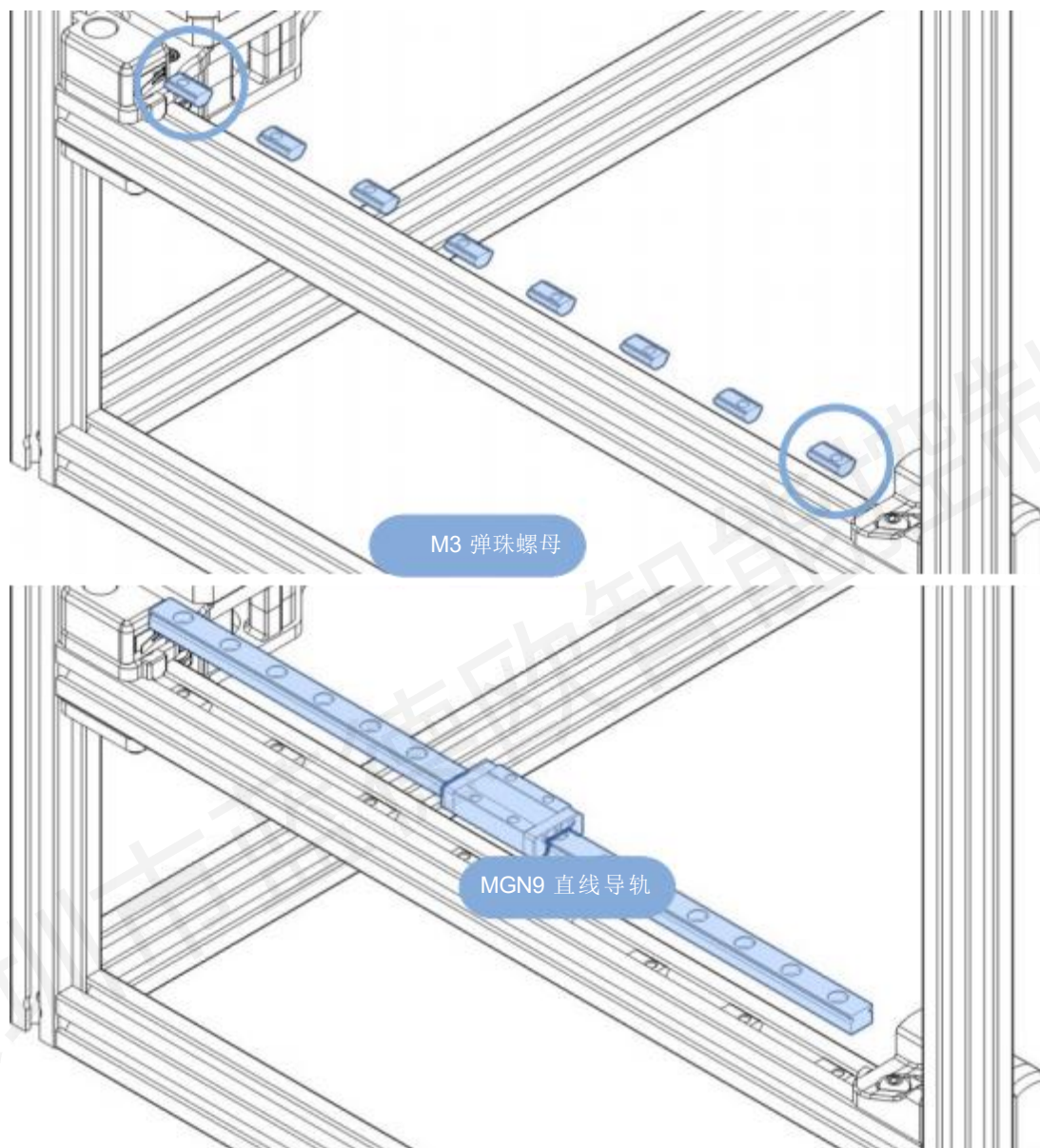


中心轨道安装指南：
在拧紧螺丝之前，请使用MGN9导轨将轨道定位到挤出体的中心位置。



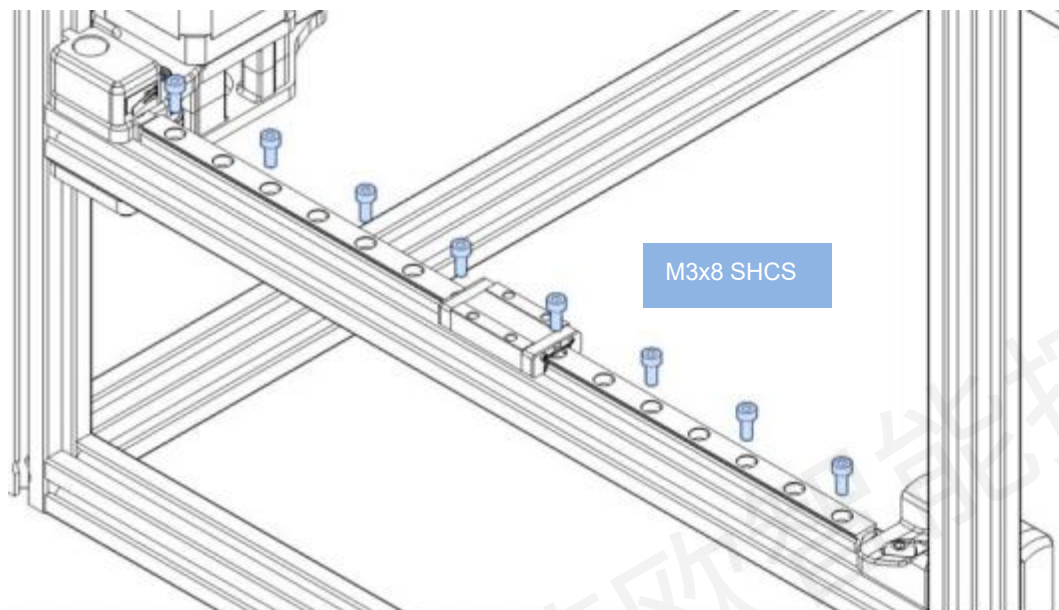
MGN9导轨稍短，请将其嵌入可用空间内

Y 轴

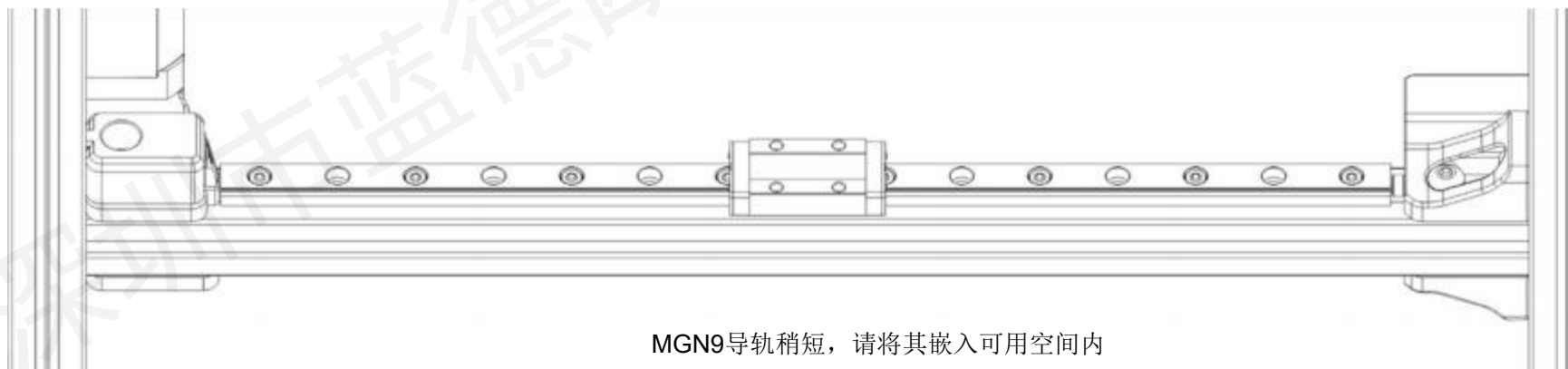


M3弹珠螺母安装:
请按图示所示插入弹珠螺母。

Y 轴



中心轨道安装指南：
在拧紧螺丝之前，请使用MGN9导轨将轨道定位到挤出体的中心位置。

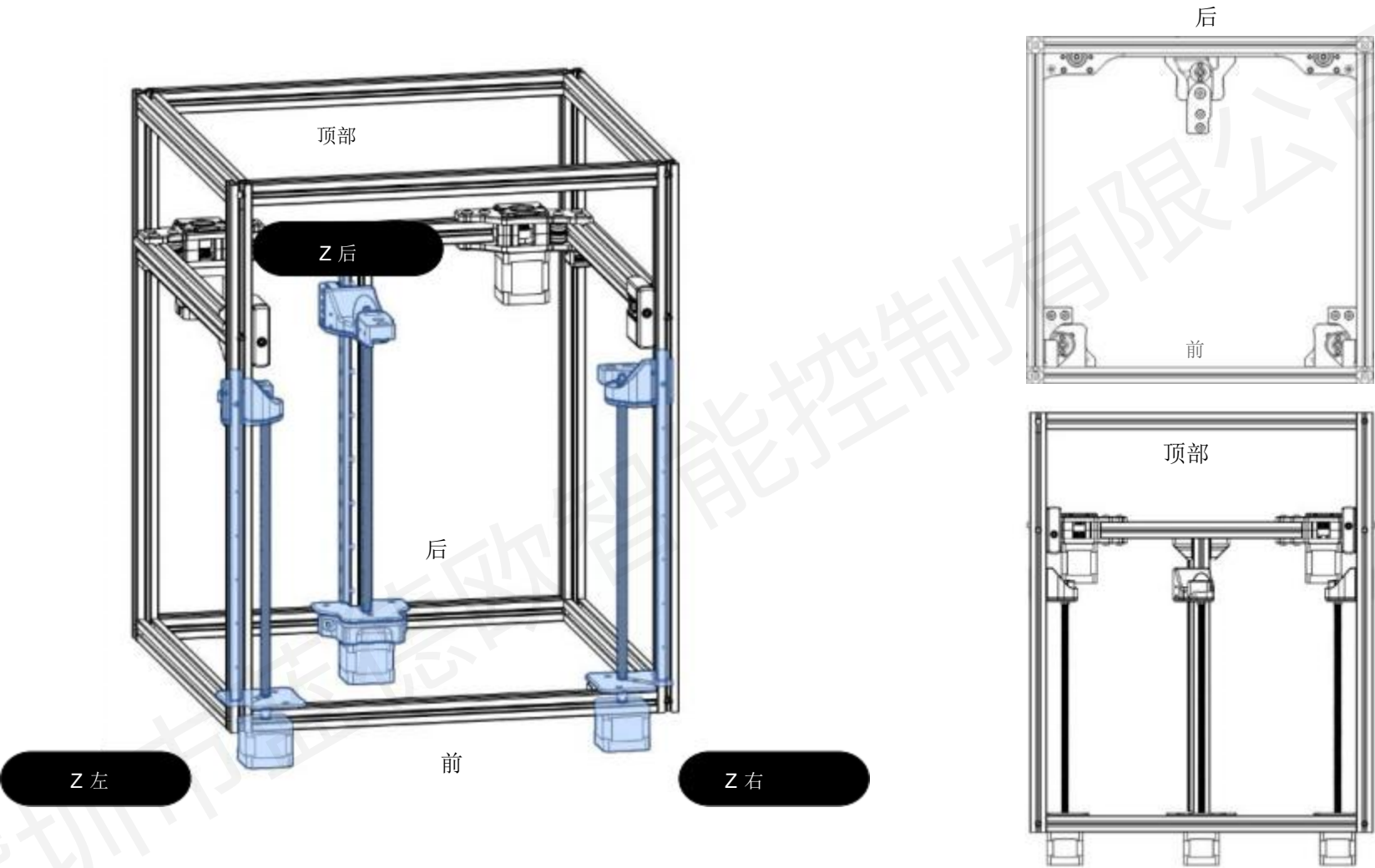


MGN9导轨稍短，请将其嵌入可用空间内

Z 轴



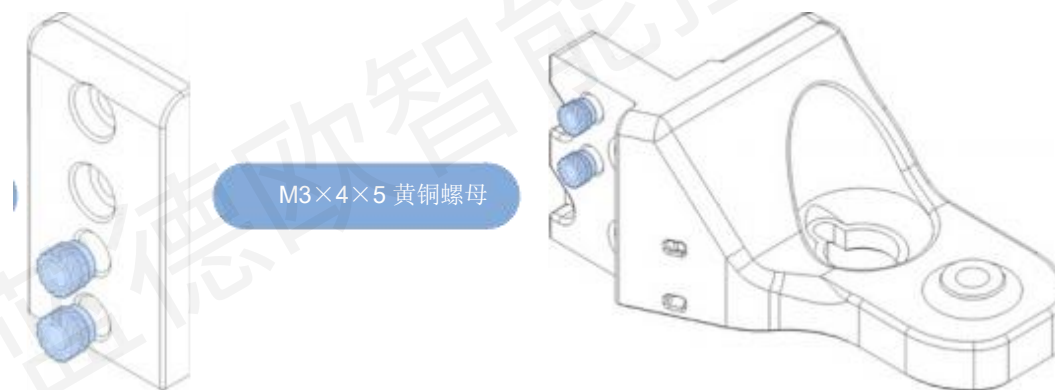
概述



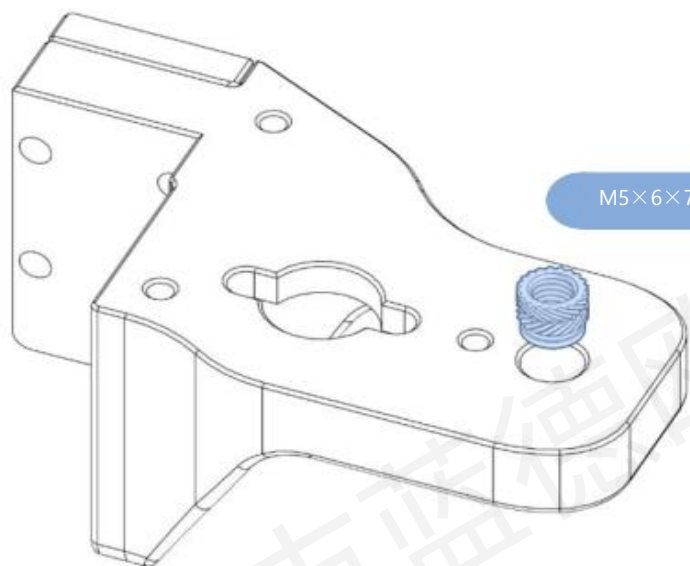
Z轴部件组装

IGUS 电缆链

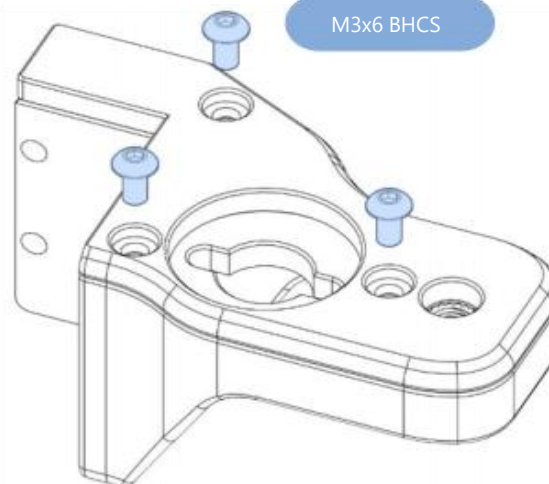
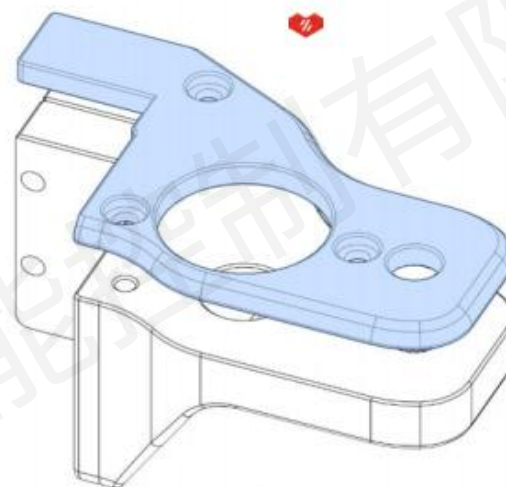
LDO套件配备两孔的拖链



Z轴部件组装

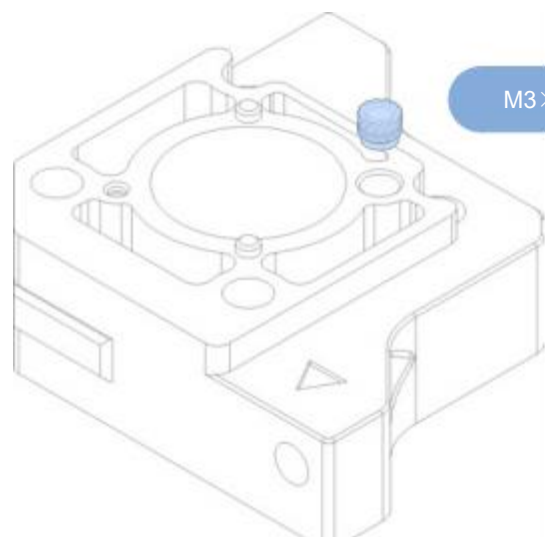


M5×6×7黄铜螺母



M3x6 BHCS

Z轴部件组装



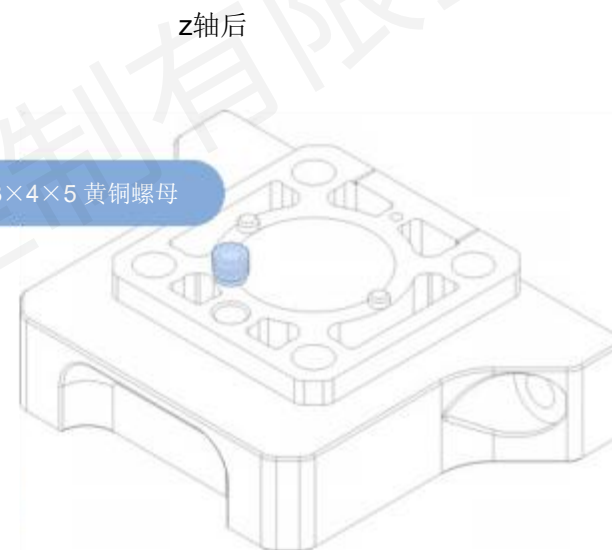
M3×4×5 黄铜螺母

z轴左



M3×4×5 黄铜螺母

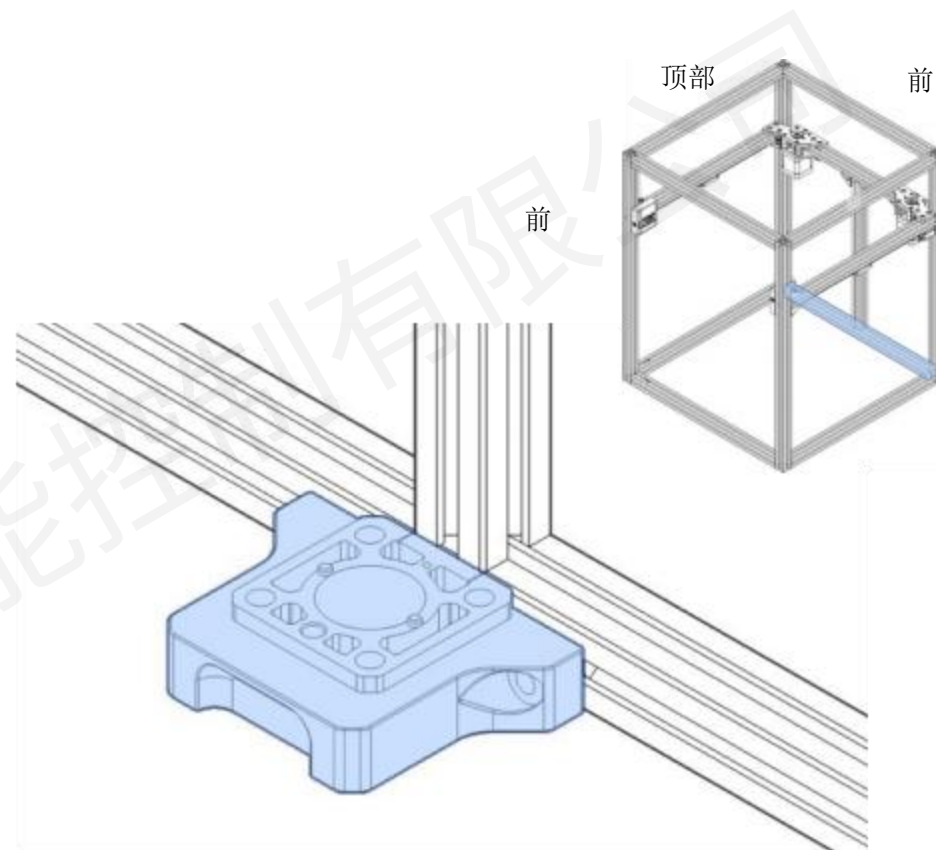
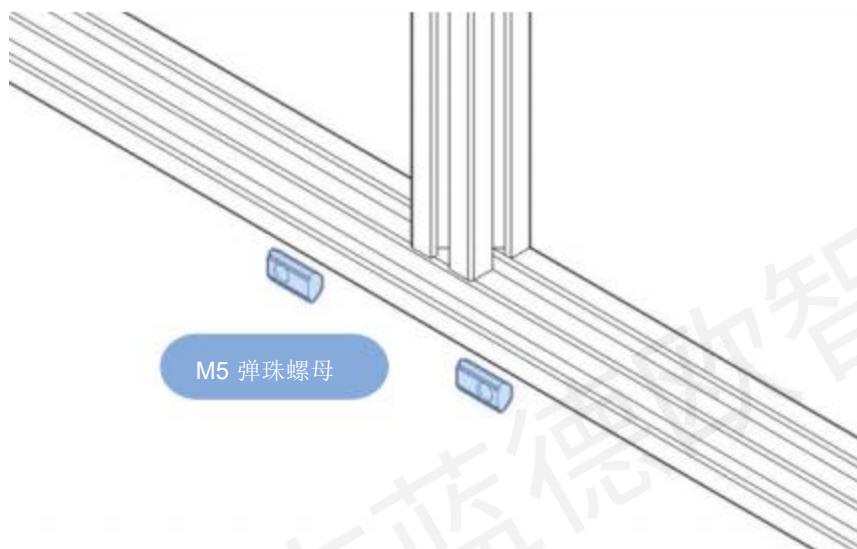
z轴右



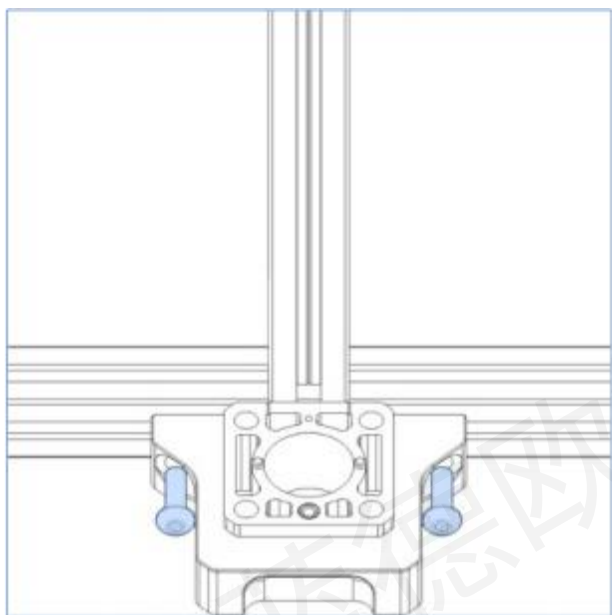
z轴后

M3×4×5 黄铜螺母

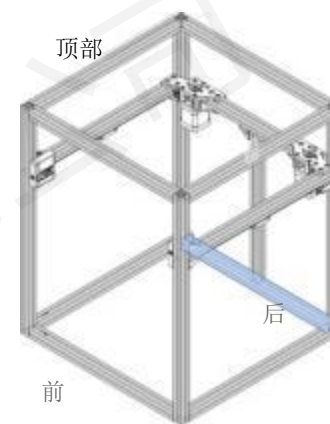
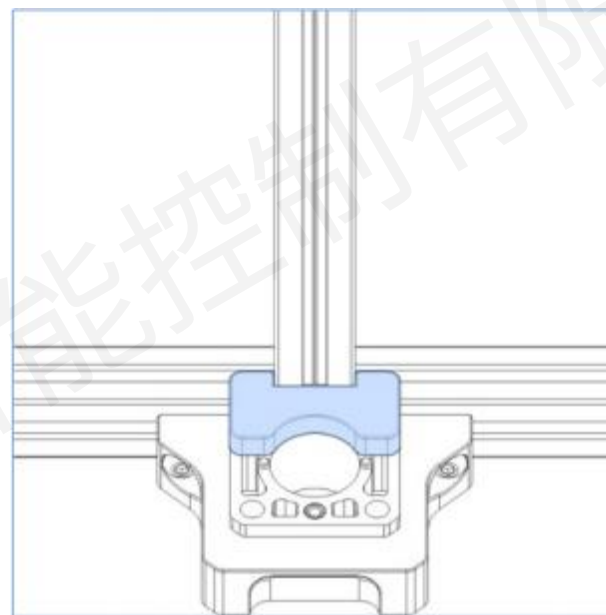
Z 轴后部



Z 轴后部



M5 × 16 BHCS



调整对齐:

使用对齐工具将后部Z电机固定件与垂直支架对齐，然后拧紧M5螺钉。确保挤出件的上表面与打印部件齐平。

Z 导轨



导轨安全:

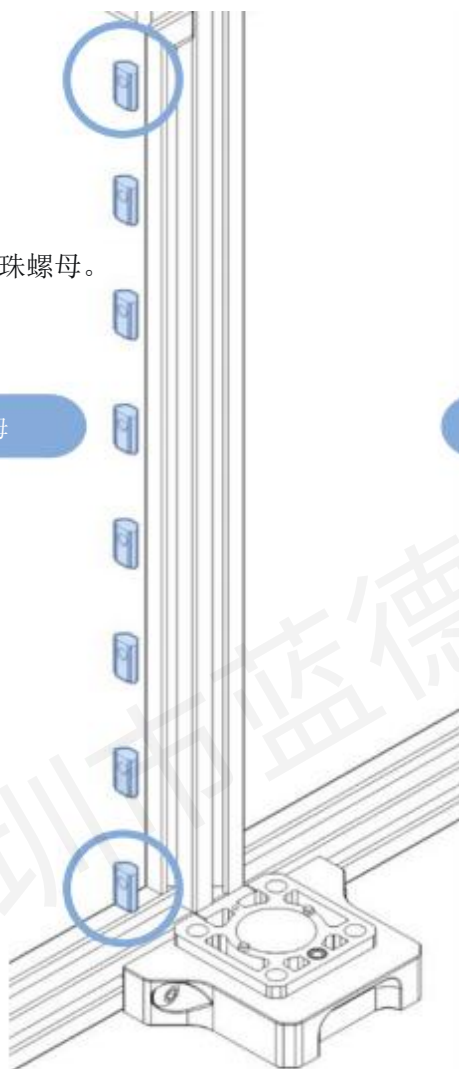
安装时请注意导轨。如果您的导轨配有塑料挡块，也可暂时重新安装，以防止滑块从导轨上脱落并导致轴承滚珠泄漏。

Z 轴后部

M3弹珠螺母安装:

请按图示方式插入M3弹珠螺母。

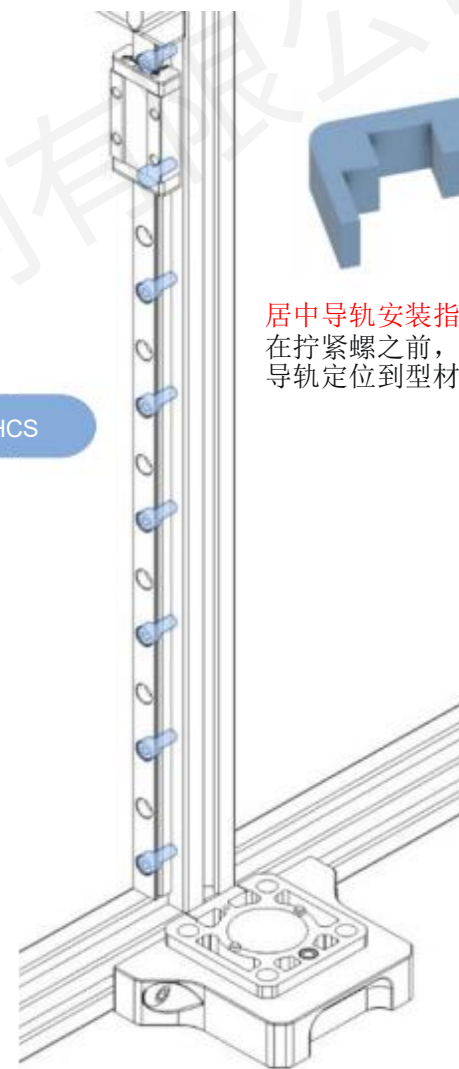
M3弹珠螺母



MGN9 直线导轨



M3x8 SHCS

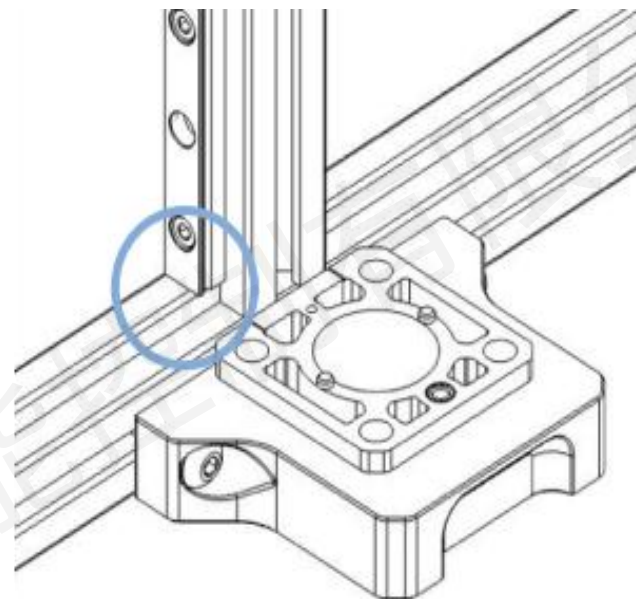
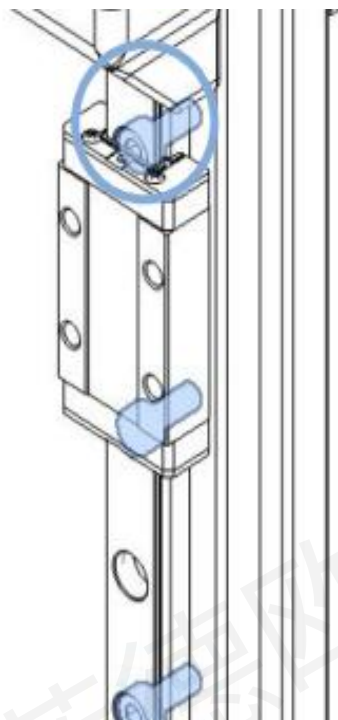


居中导轨安装指南:

在拧紧螺之前，使用MGN9导轨将导轨定位到型材的中心位置。

Z 轴后部

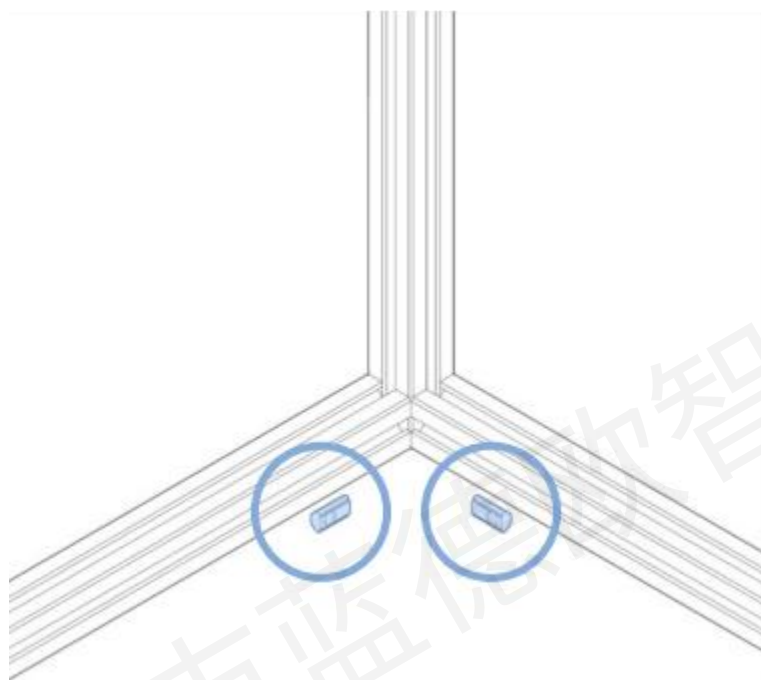
将线性导轨推至与垂直支架贴合的位置。



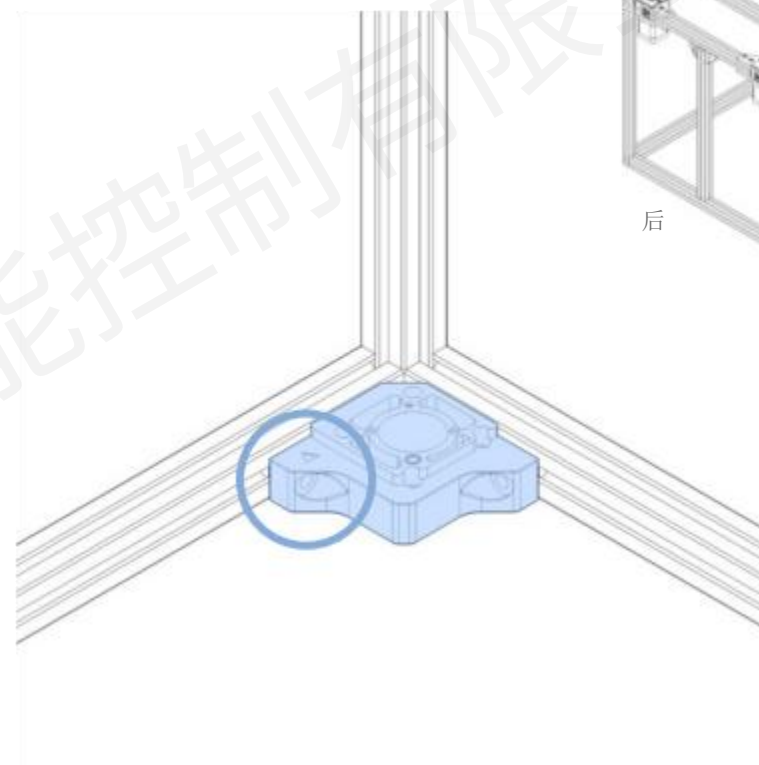
底部间隙

当导轨靠紧顶部支撑时，此处应留有小缝隙以确保盖板部分的通畅。

Z 轴前左

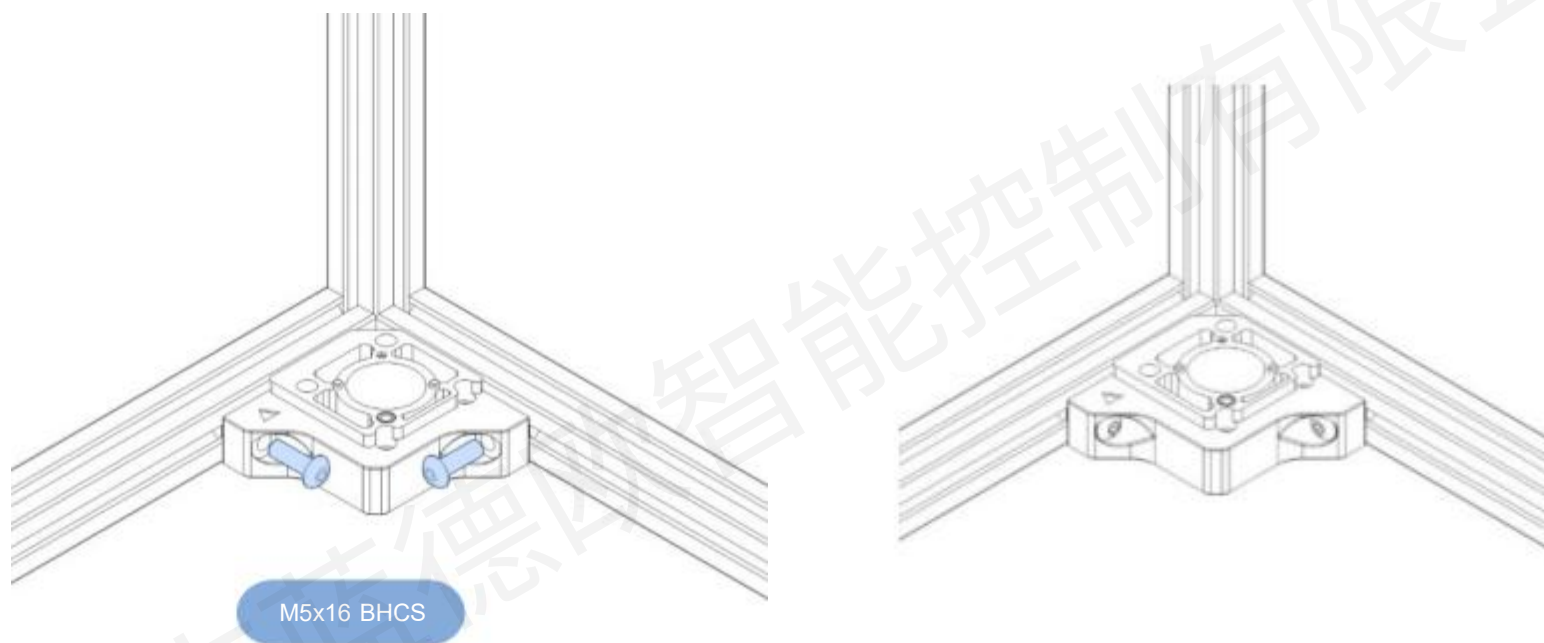


M5弹珠螺母安装:
请按图示方式插入弹珠螺母。



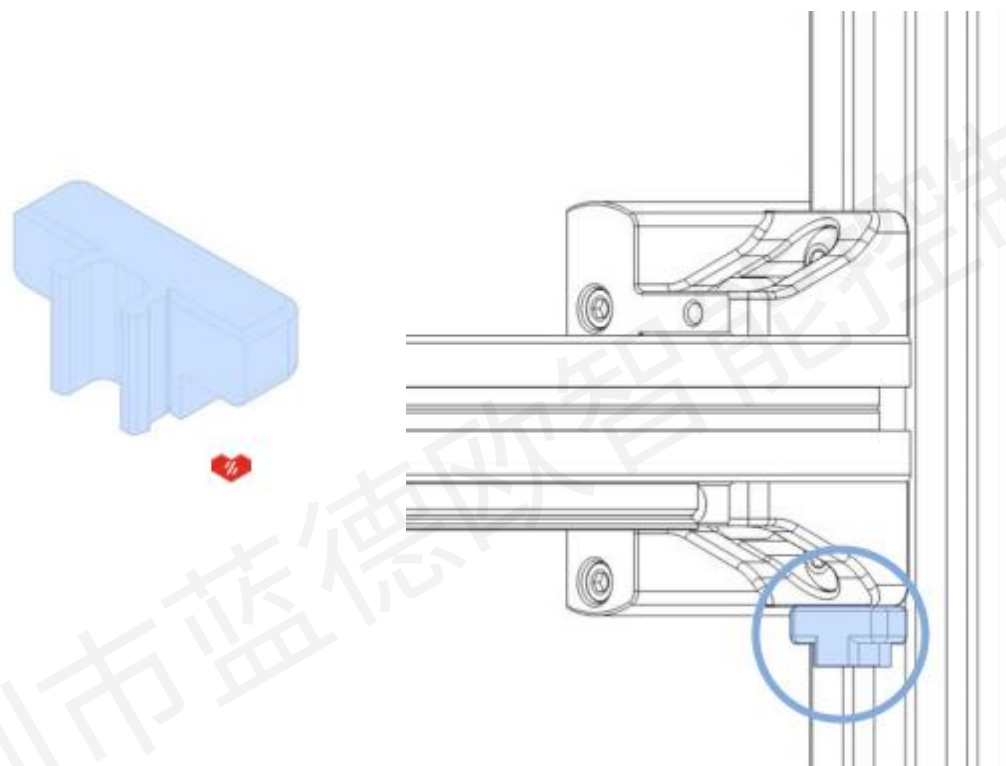
箭头朝前 将部件调整至箭头指向前框架的延伸部分。

Z 轴前左



保持平整： 确保型材和打印部件的上表面位于同一平面上，这样可使电机、丝杠和线性导轨正确对齐。

Z 轴前左



轨道卡扣插入型材槽中，无需任何硬件。将其完全推至前轮边缘。

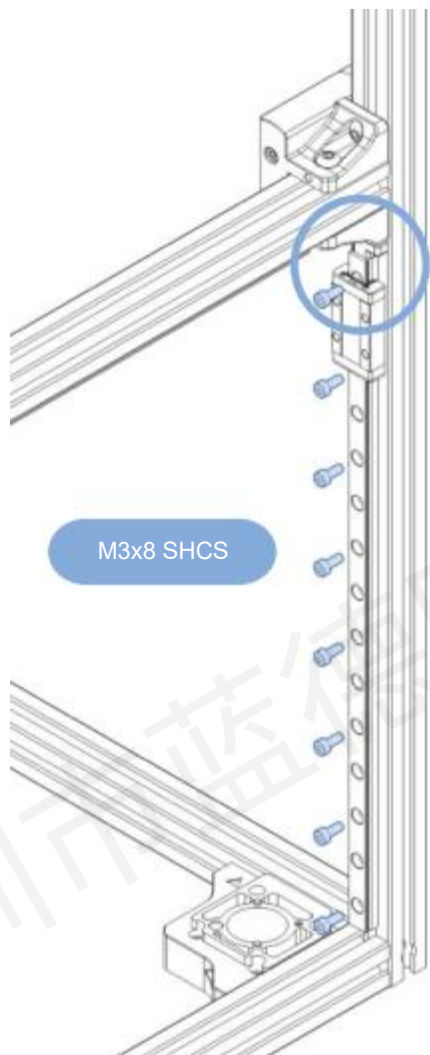
Z轴前左

M3弹珠螺母安装:

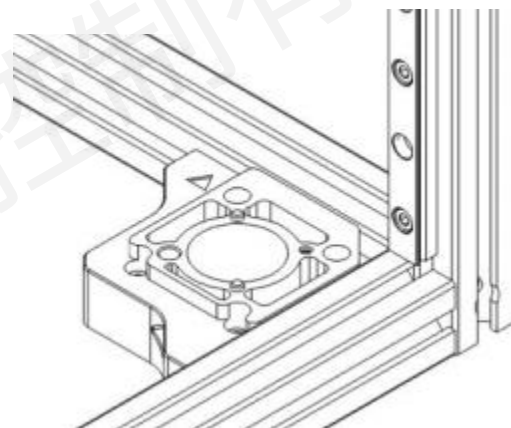
请按图示方式插入M3弹珠螺母。



Z轴前左



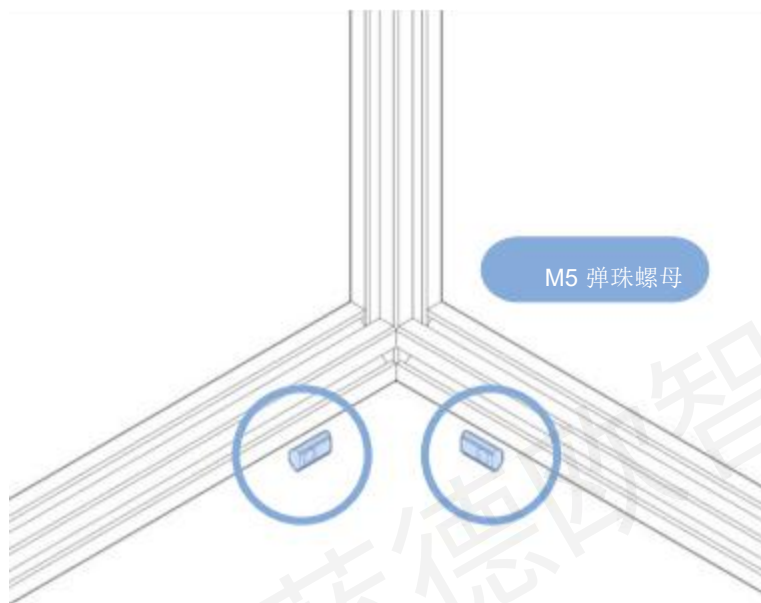
将线性导轨推至与垂直支架贴合的位置。



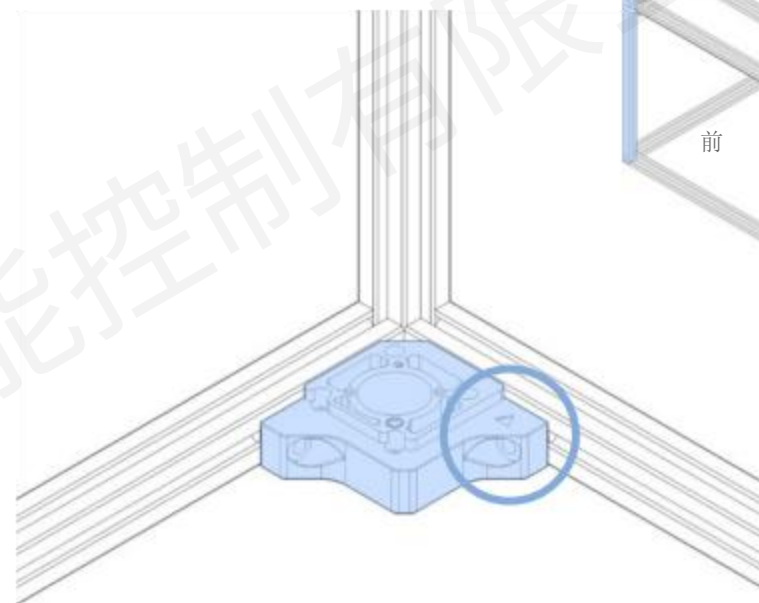
底部间隙

当导轨靠紧顶部支撑时，此处应留有小缝隙以确保盖板部分的通畅。

Z 轴前右

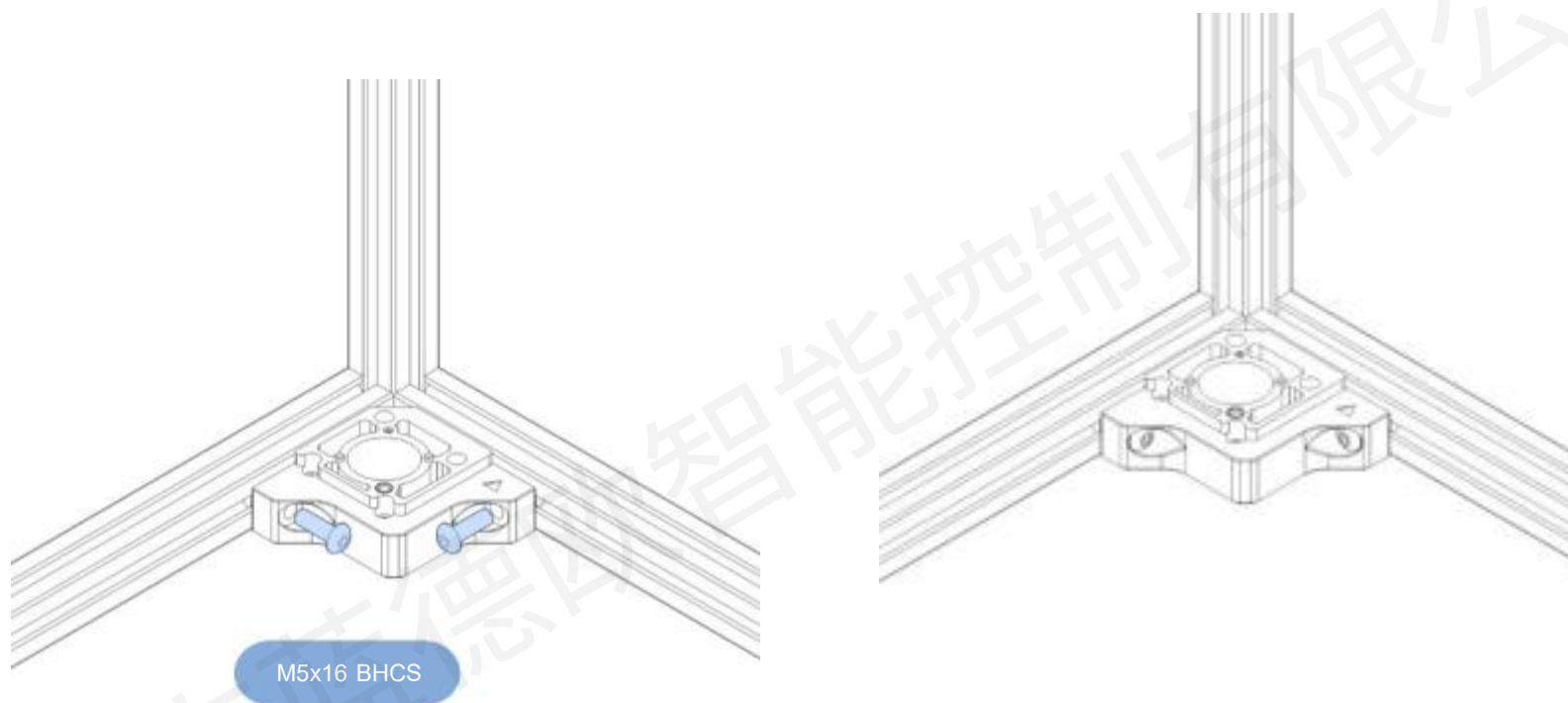


M5弹珠螺母安装：请按图示方式插入M5弹珠螺母。



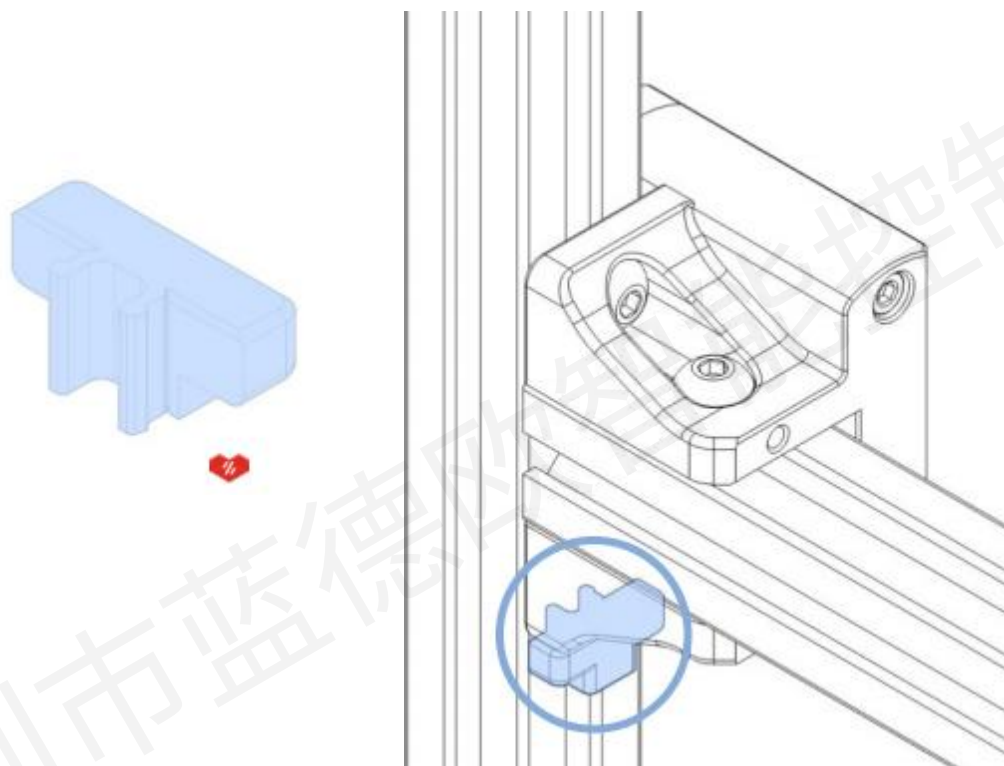
箭头朝前 将部件调整至箭头指向前框架的

Z 轴前右



保持平整：确保型材和打印部件的上表面位于同一平面上，这样可使电机、丝杠和线性导轨正确对齐。

Z 轴前右



轨道卡扣插入型材槽中，无需任何硬件。将其完全推至前轮边缘。

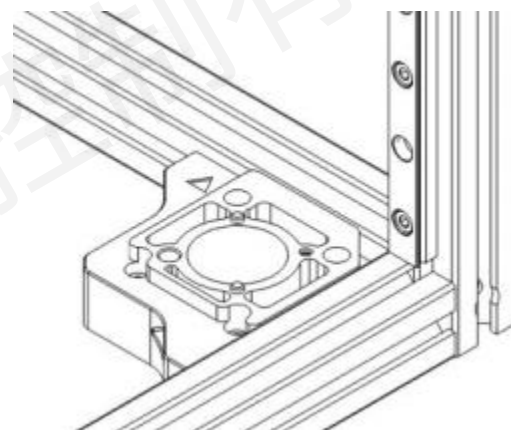
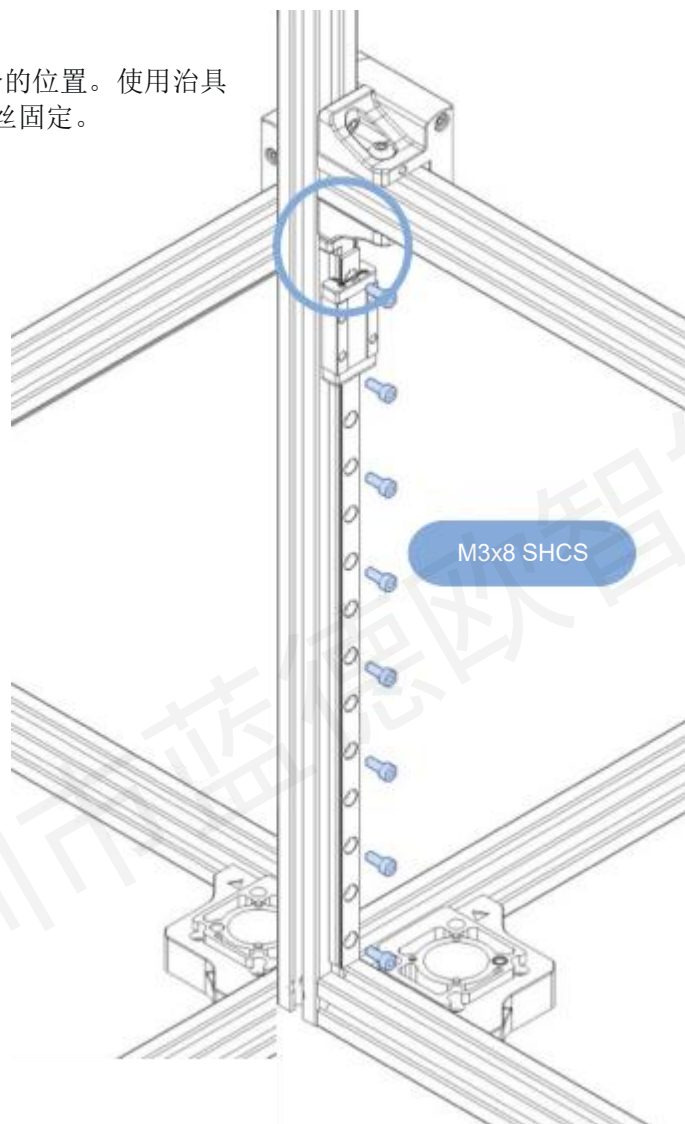
Z 轴前右

M3弹珠螺母安装:
请按图示方式插入弹珠螺母。



Z 轴前右

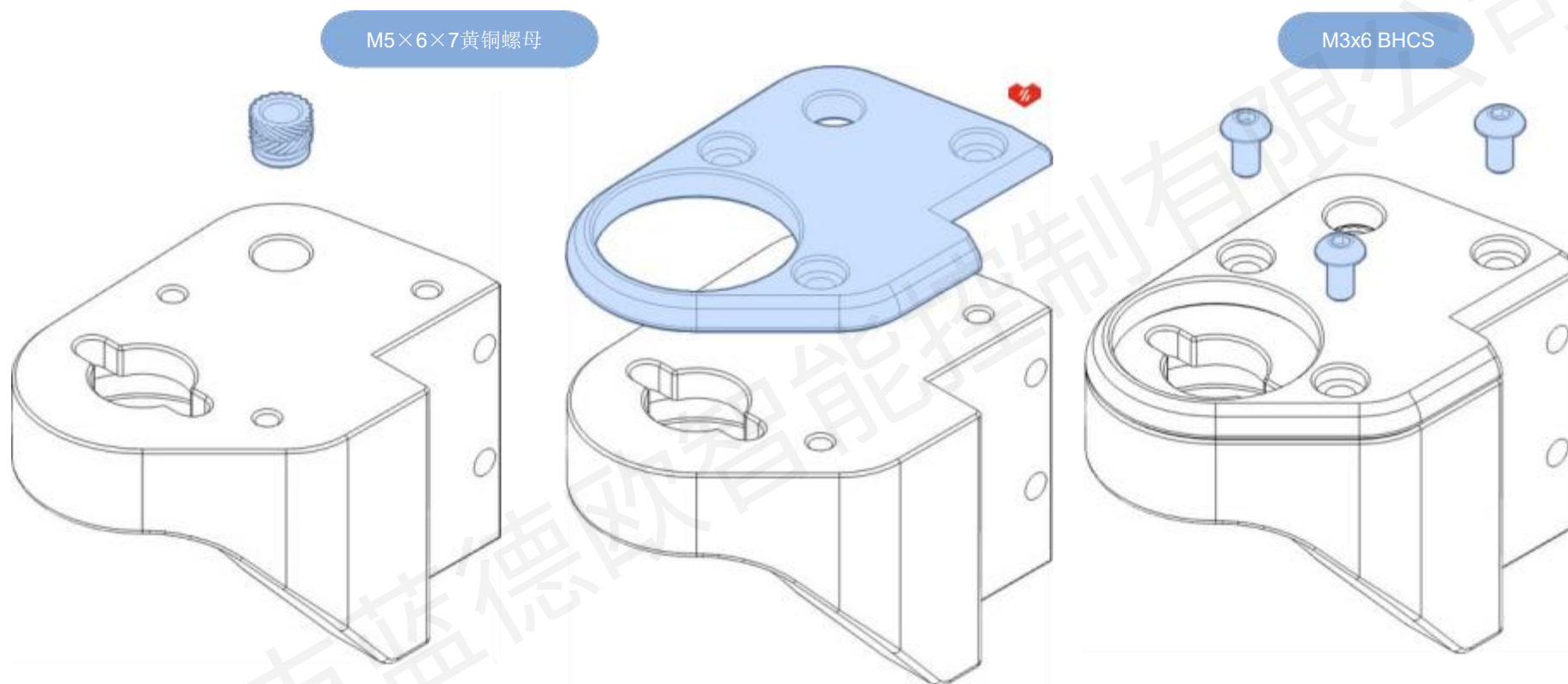
将直线导轨推至与垂直支架贴合的位置。使用治具进行稳定, 并且用M3x8mm杯头螺丝固定。



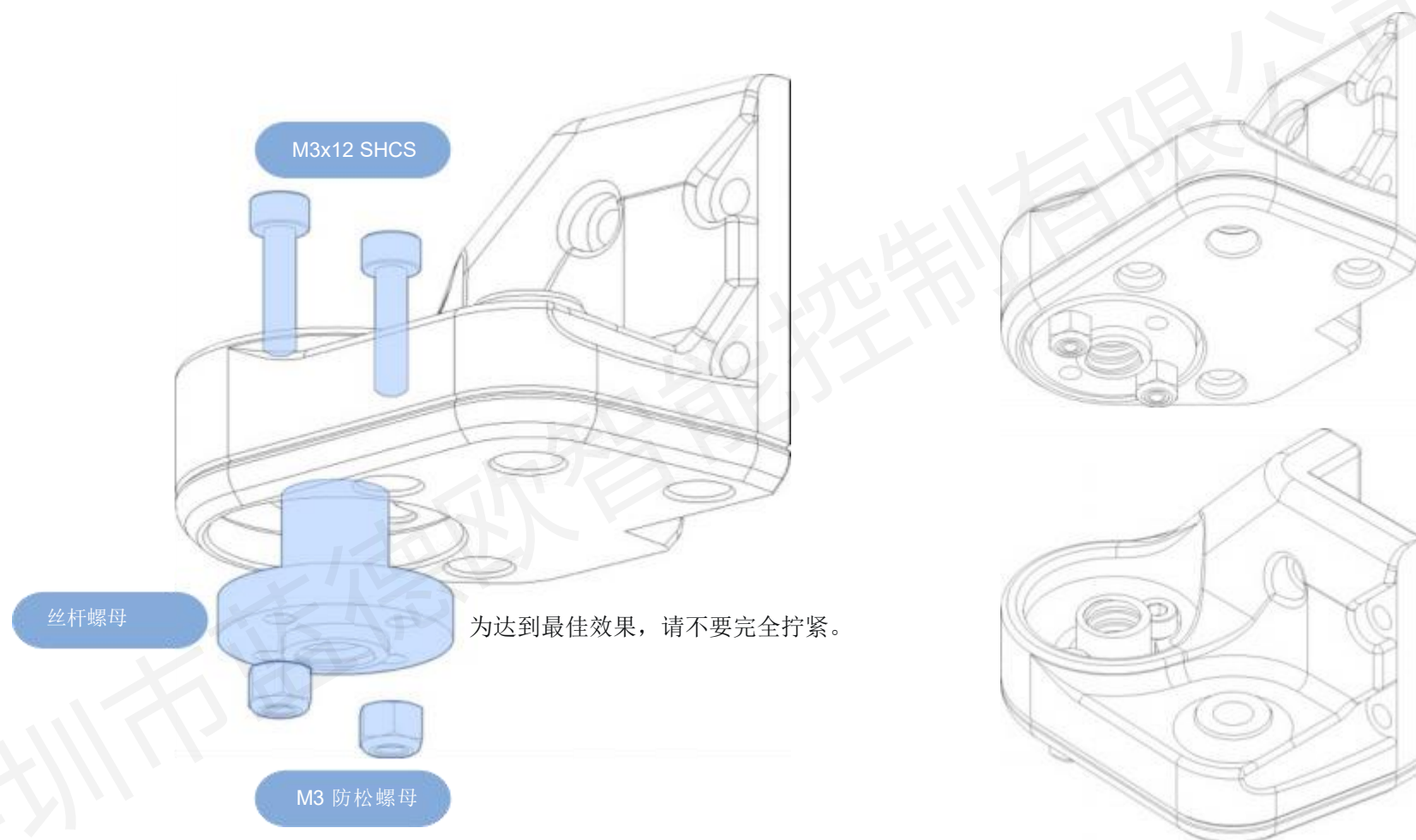
底部间隙

当导轨靠紧顶部支撑时, 此处应留有小缝隙以确保盖板部分的通畅。

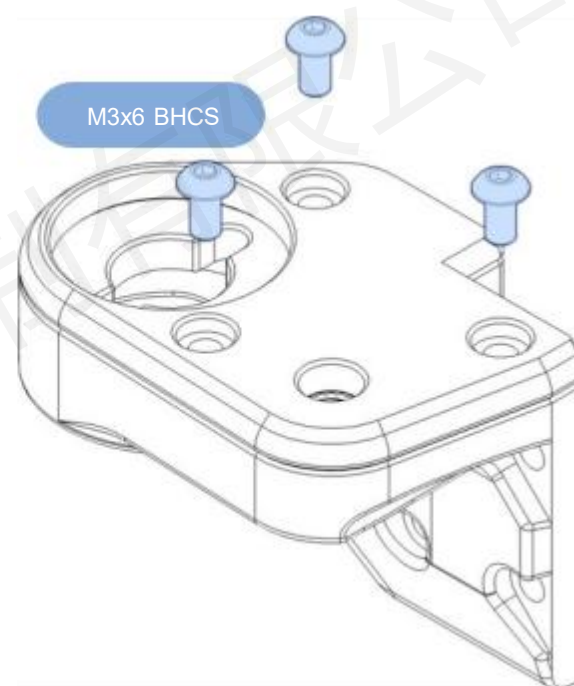
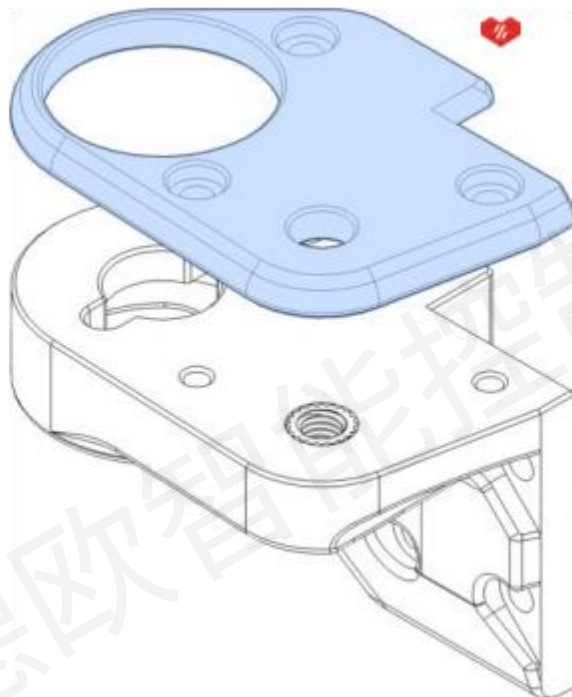
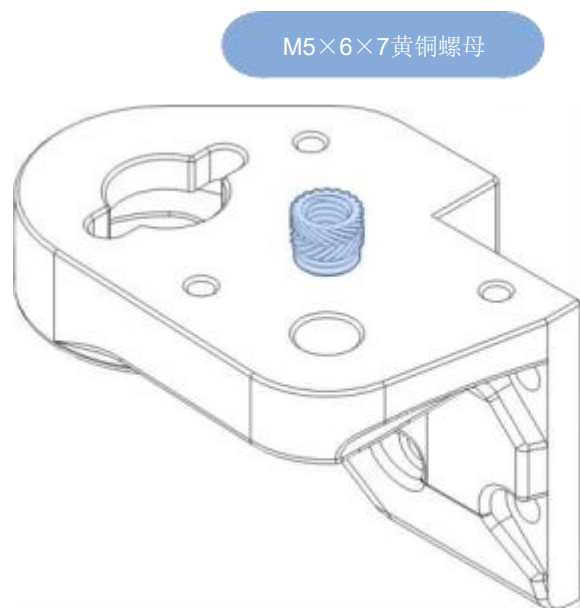
左侧Z关节



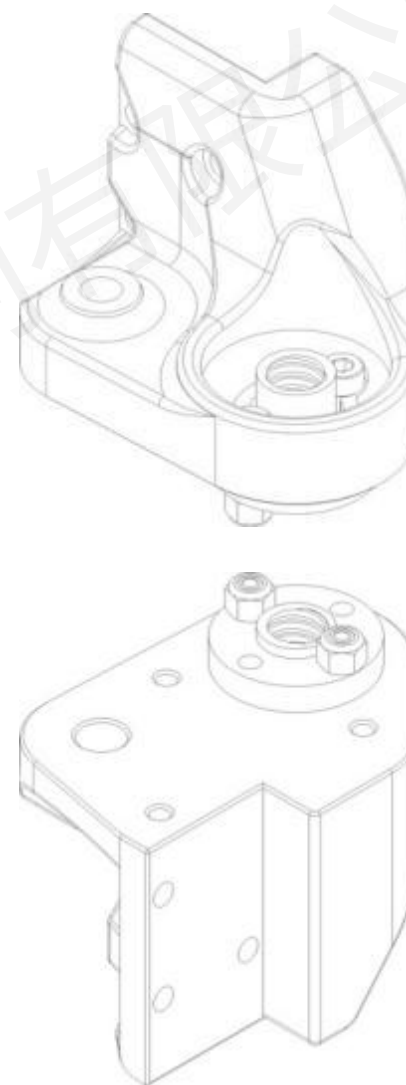
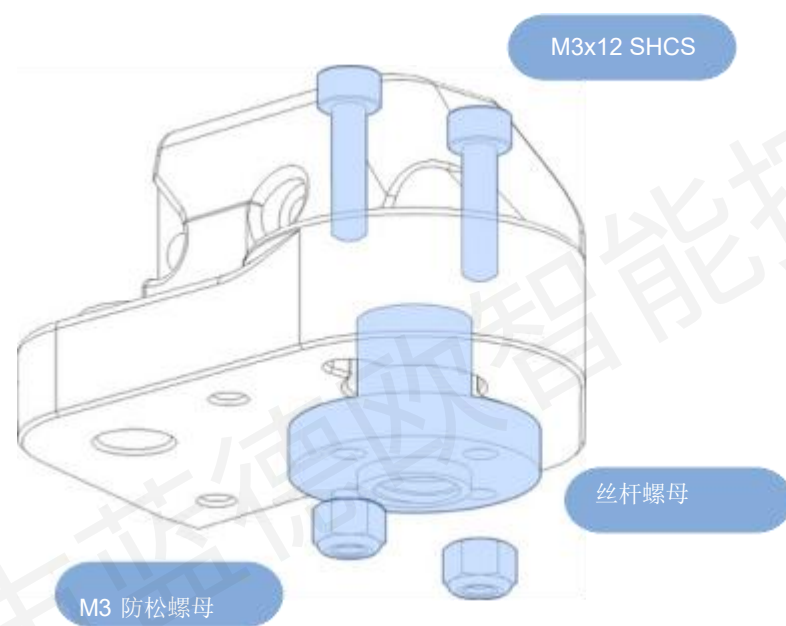
左侧Z关节



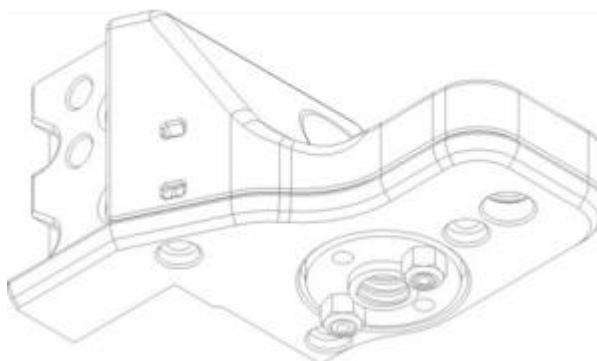
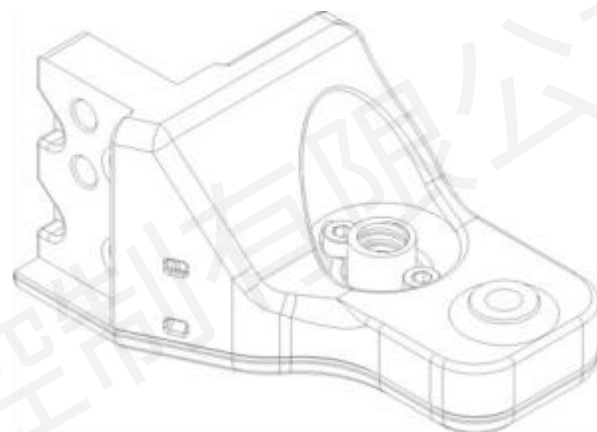
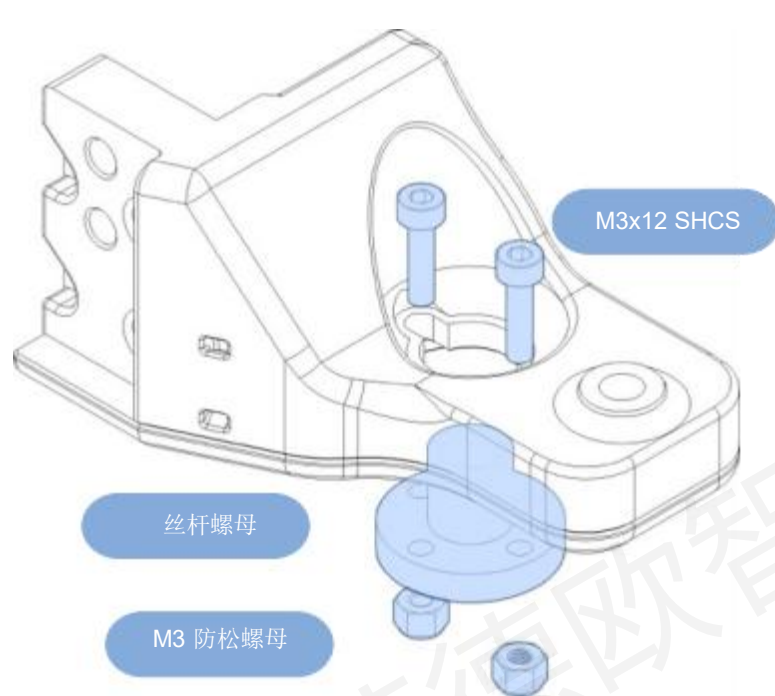
右侧Z关节



右侧Z关节



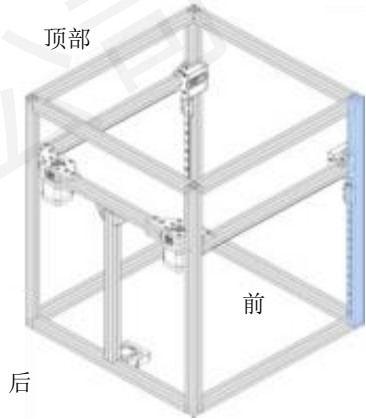
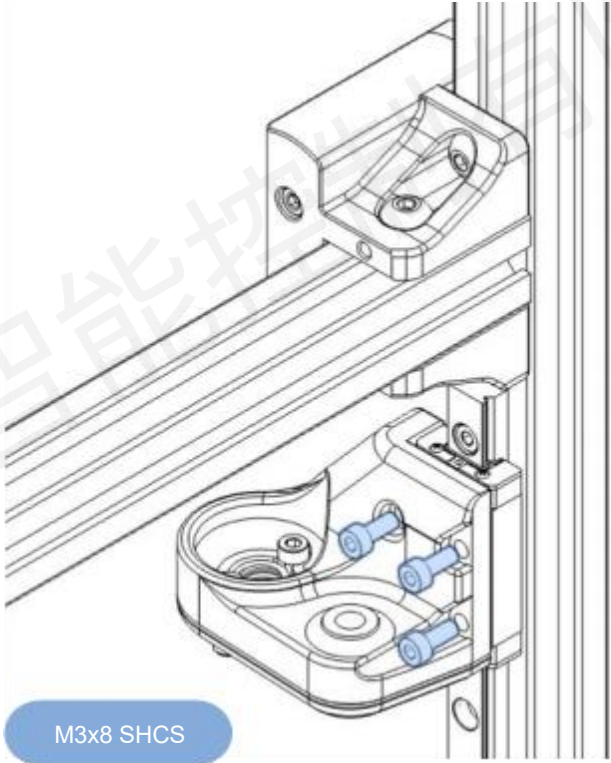
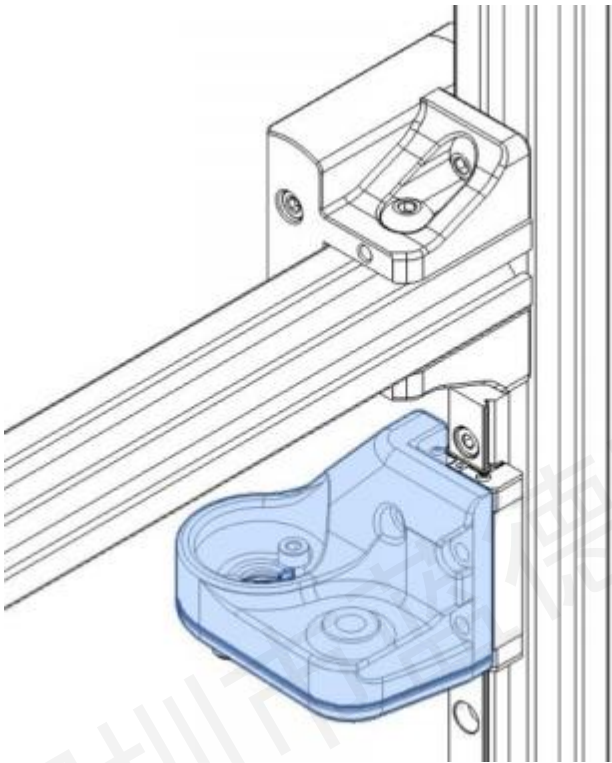
后方Z关节



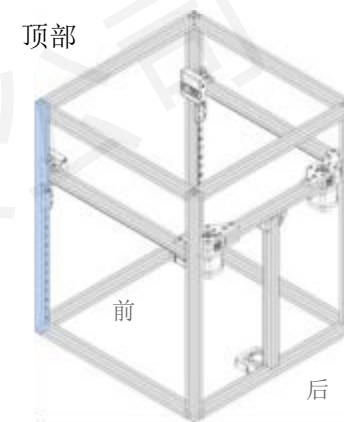
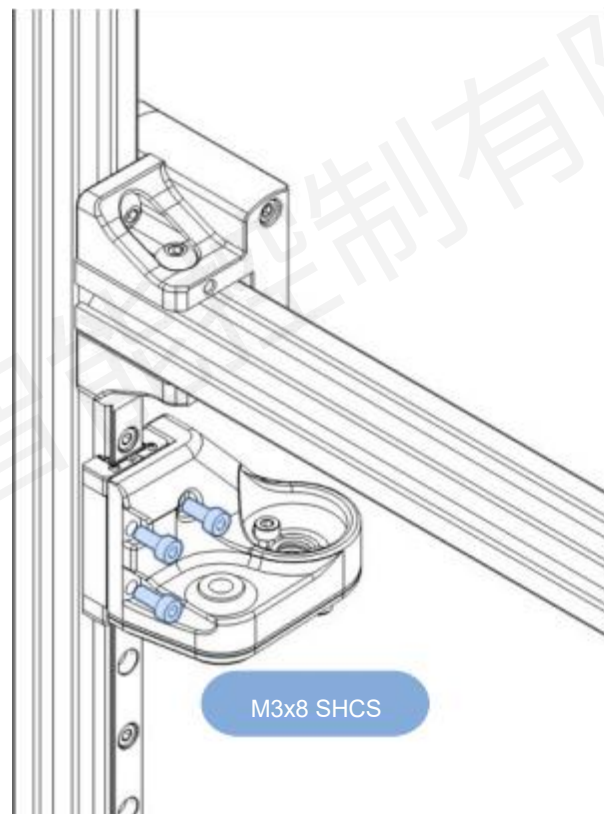
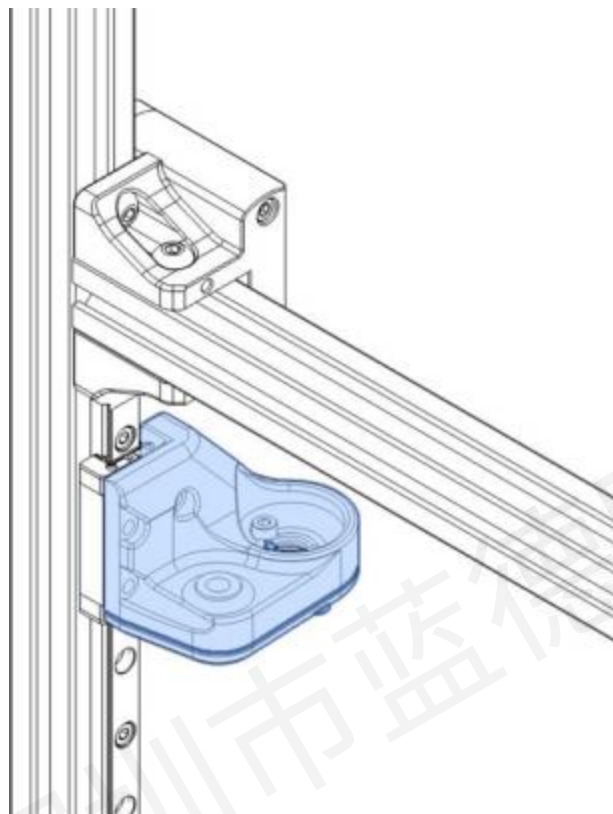
概述



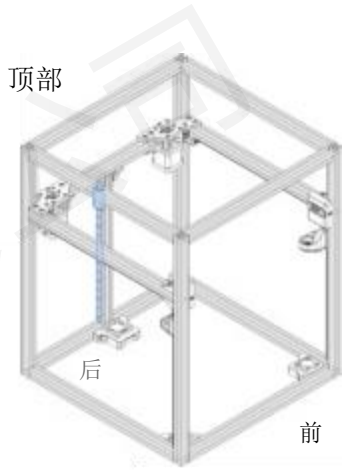
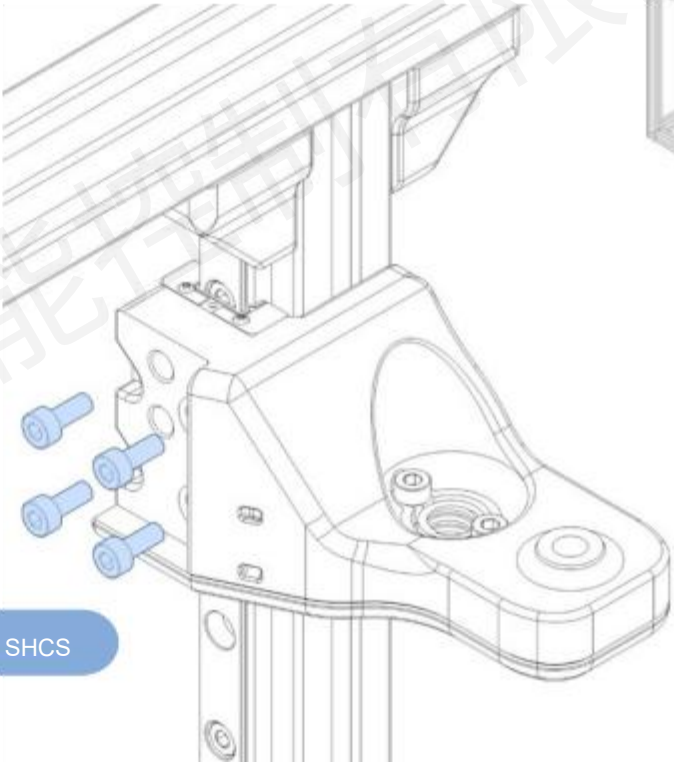
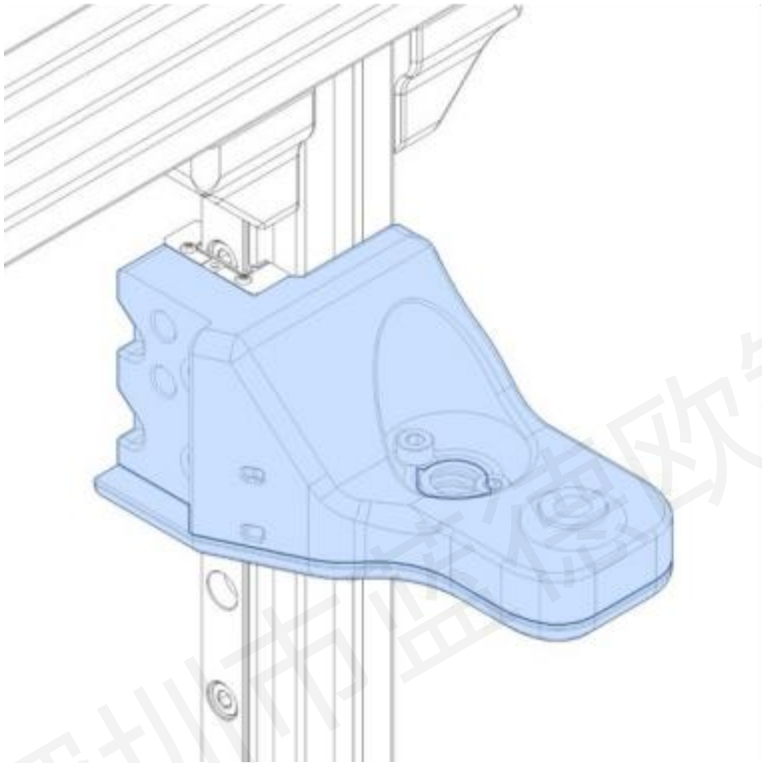
左侧Z关节



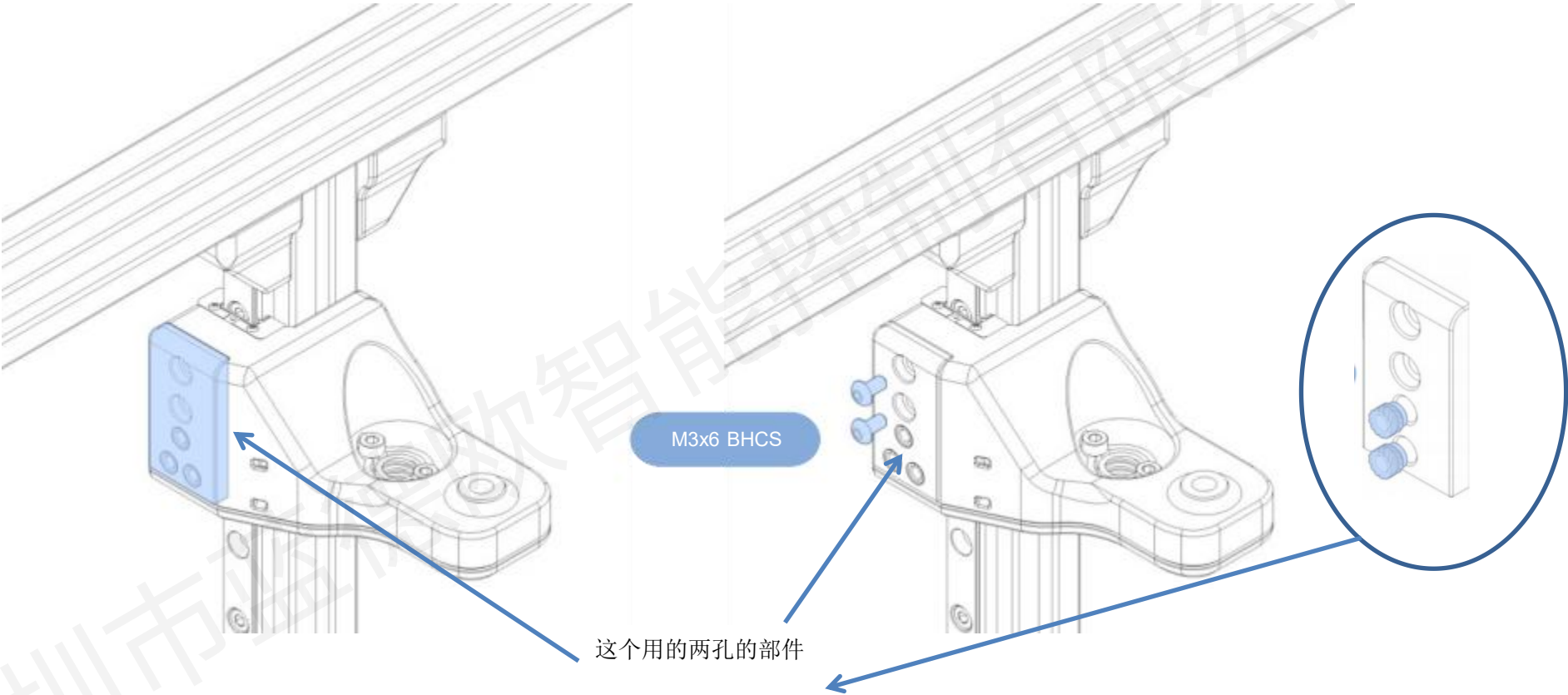
右侧Z关节



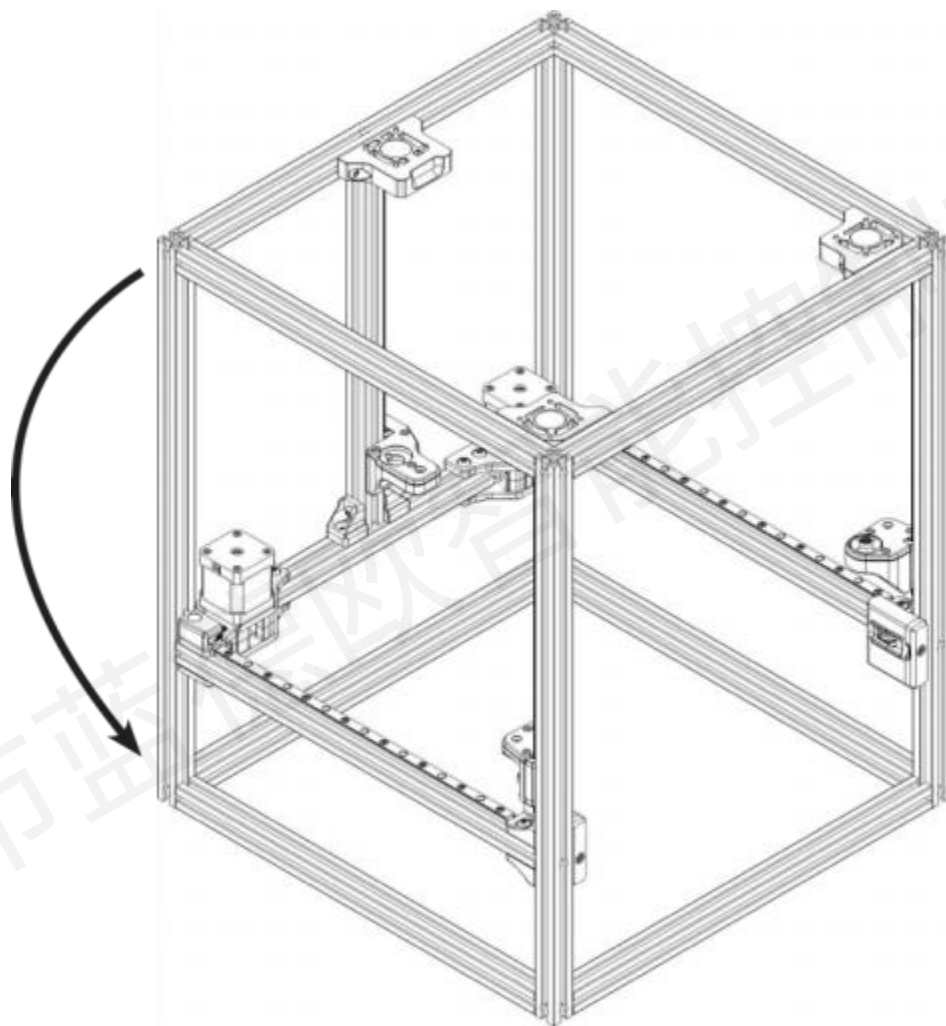
后方Z关节



部件准备



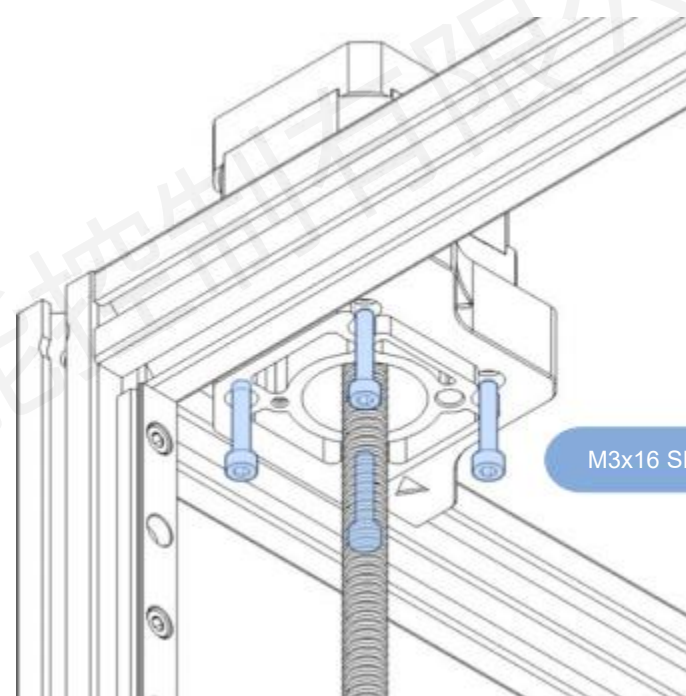
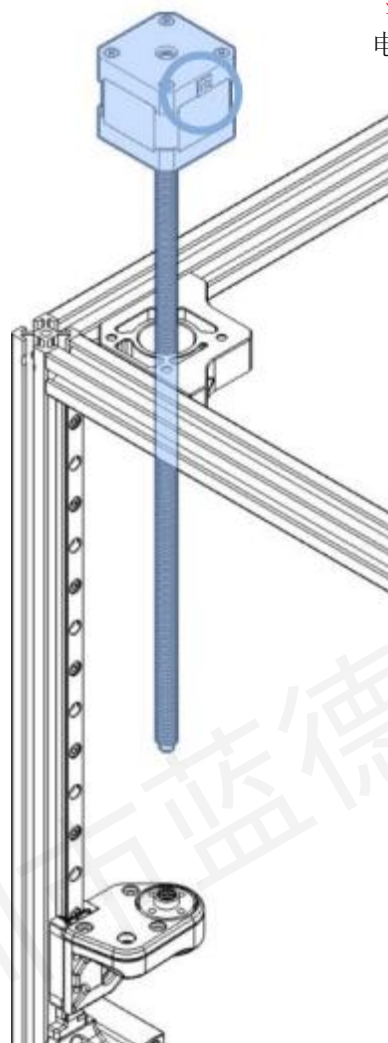
左侧Z轴电机



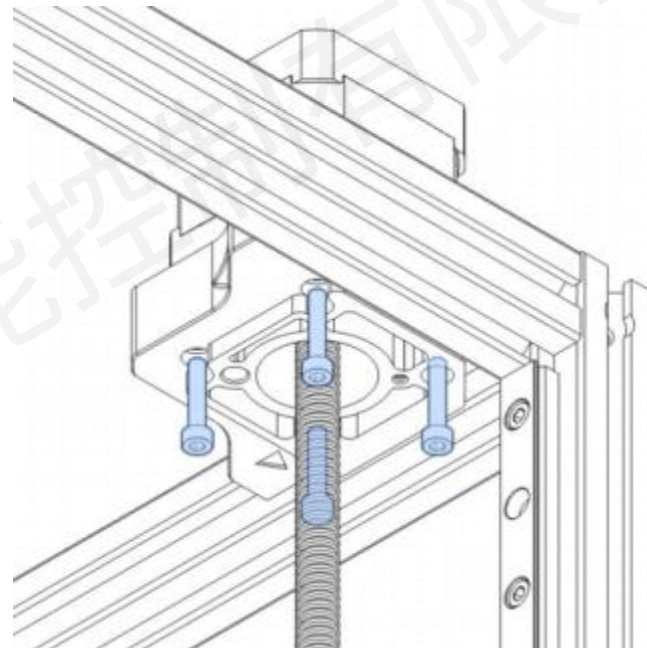
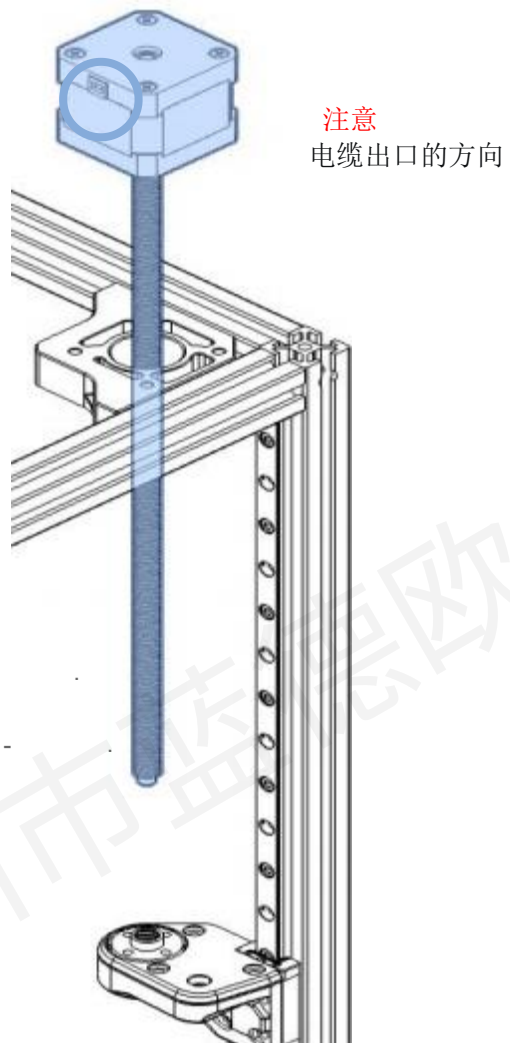
翻转过来：顶部朝下

左侧Z轴电机

注意
电缆出口的方向

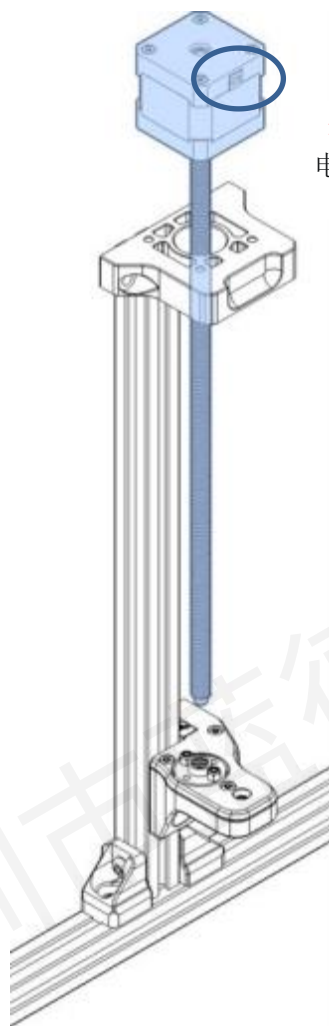


右侧Z轴电机

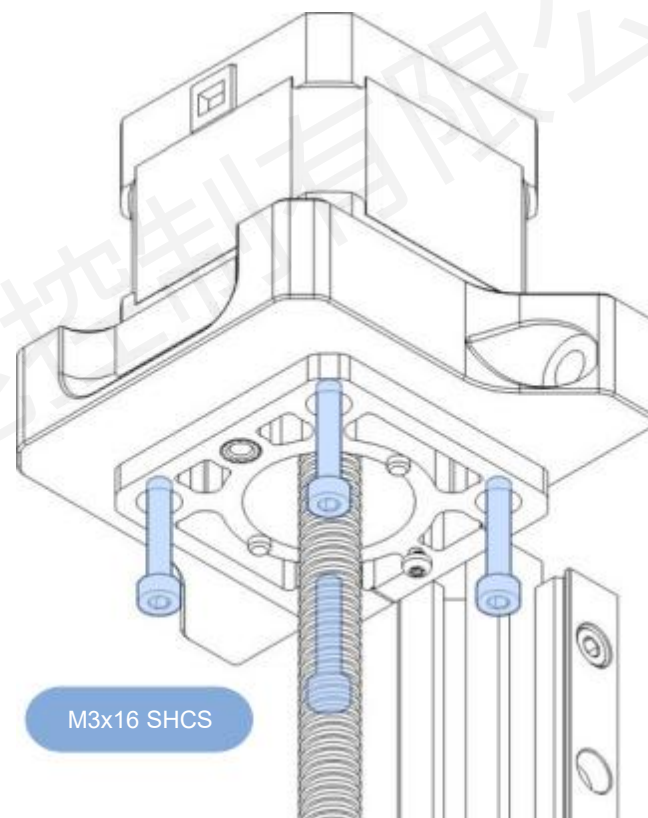


M3x16 SHCS

后方Z轴电机



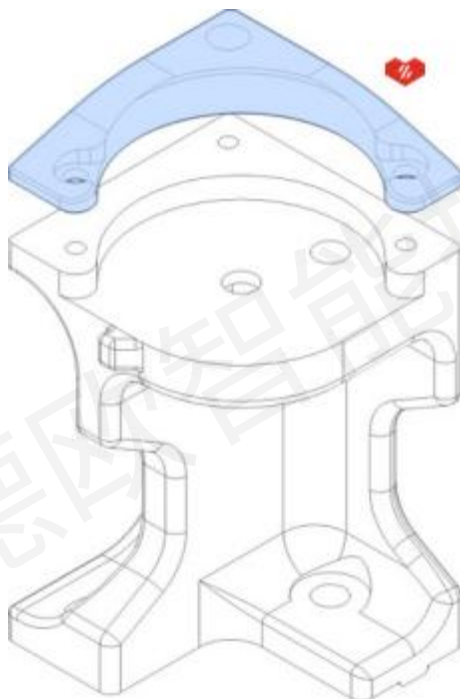
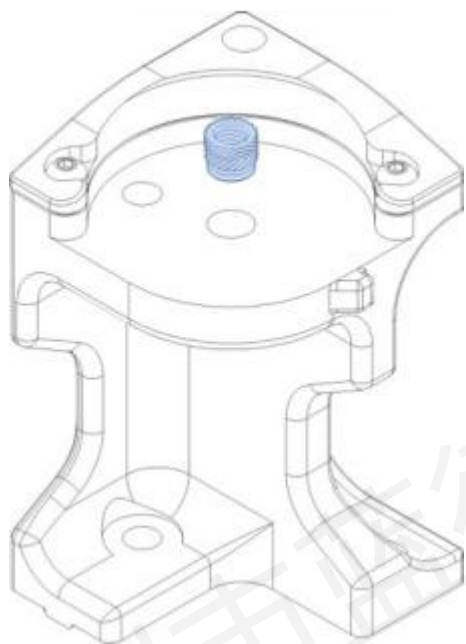
注意
电缆出口的方向



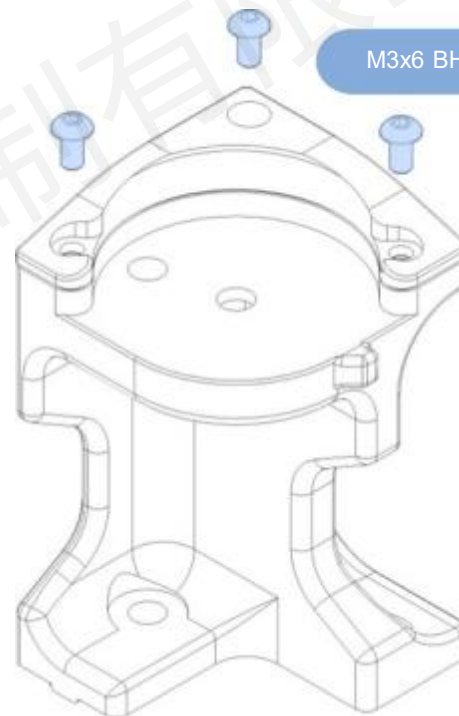
M3x16 SHCS

脚座

M5×6×7黄铜螺母

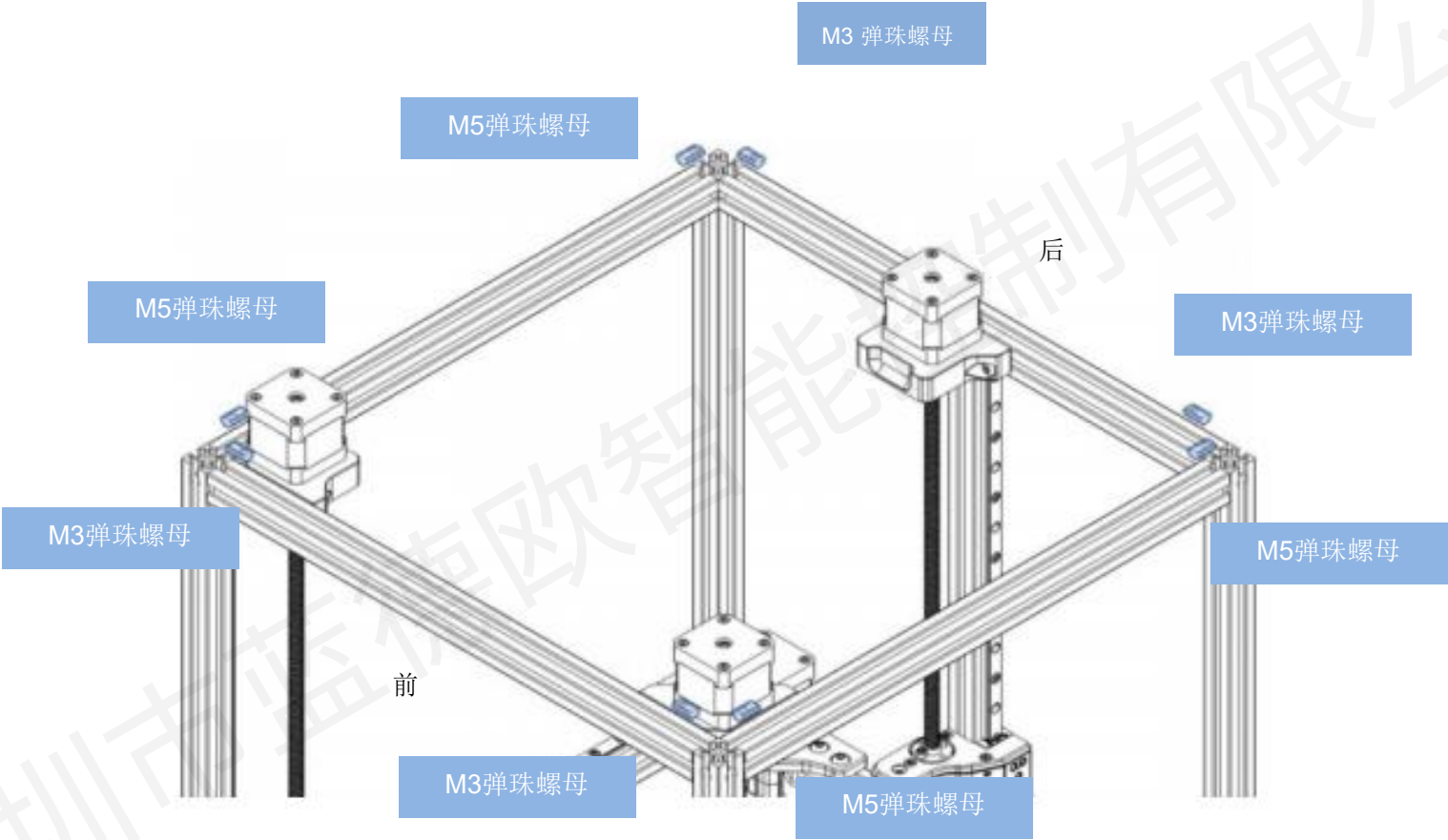


M3x6 BHCS

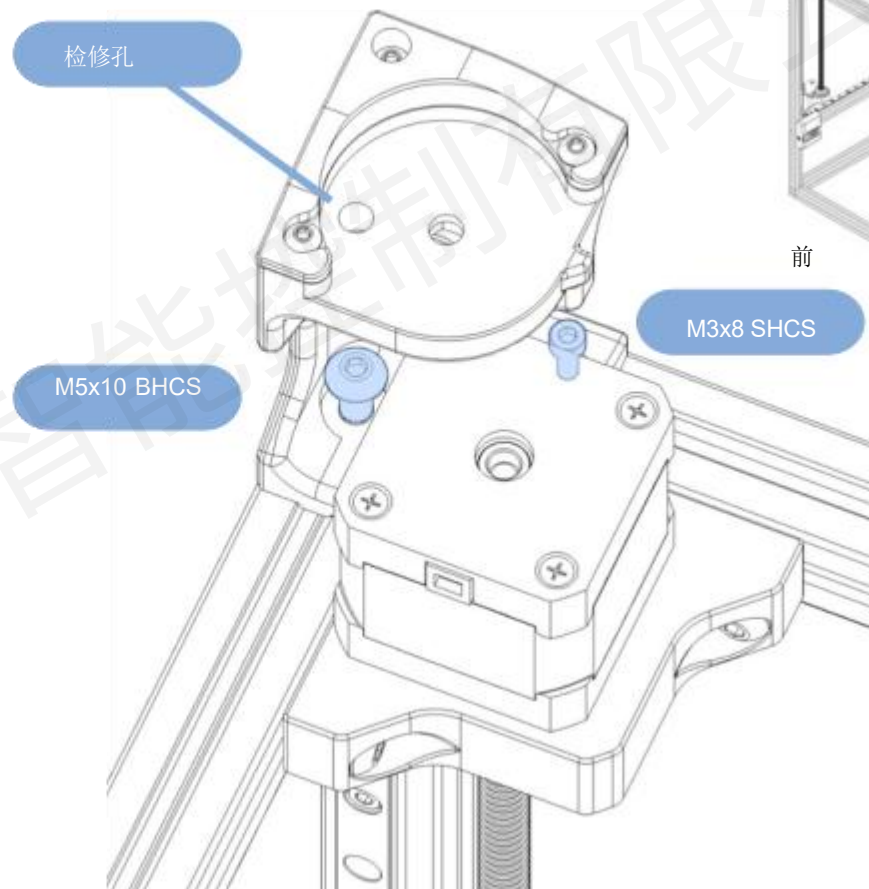
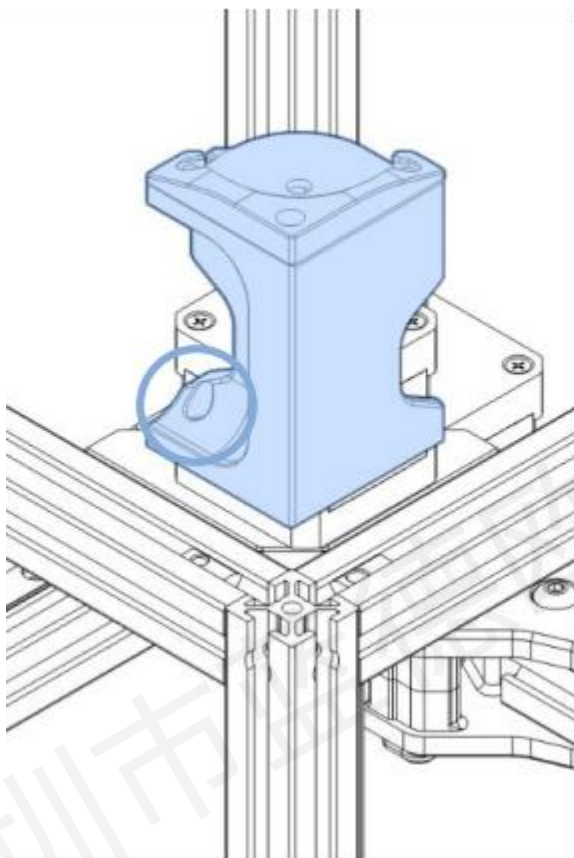


相同步骤组装四个脚座

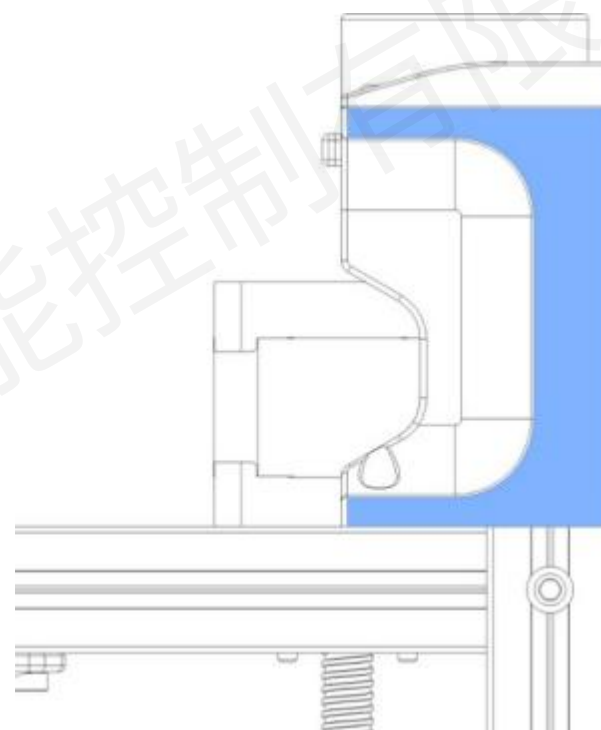
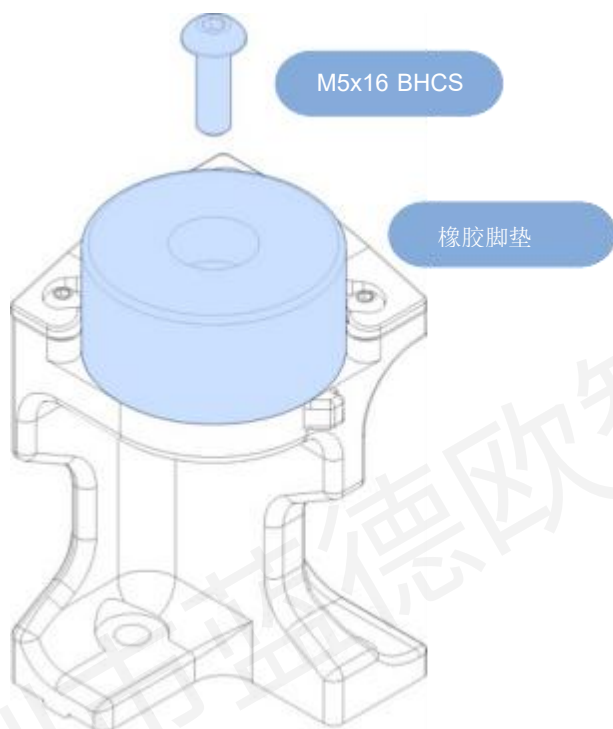
脚座



脚座



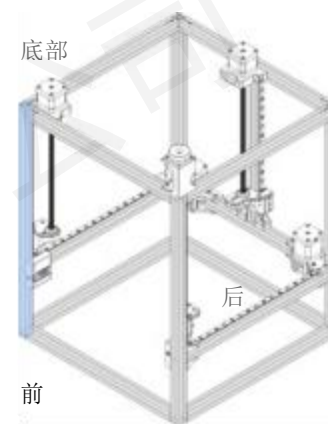
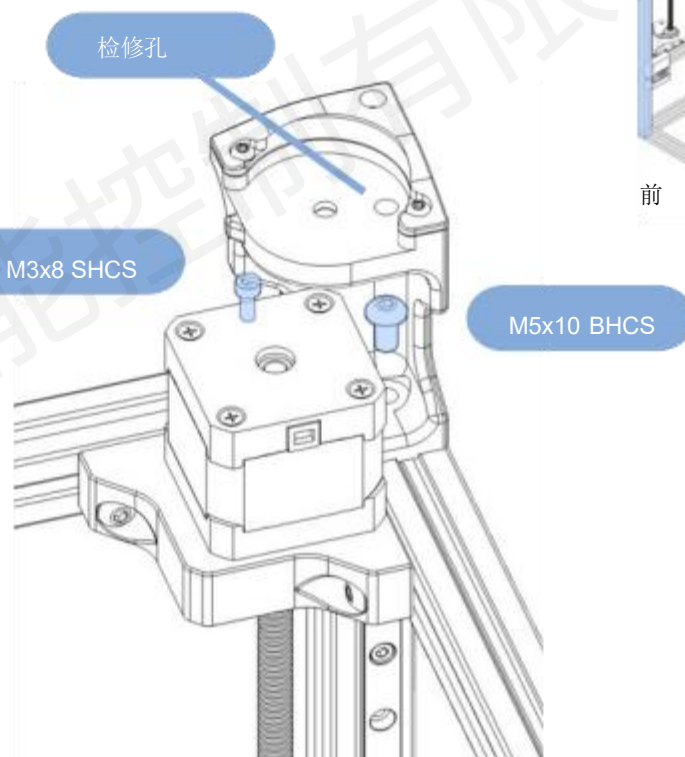
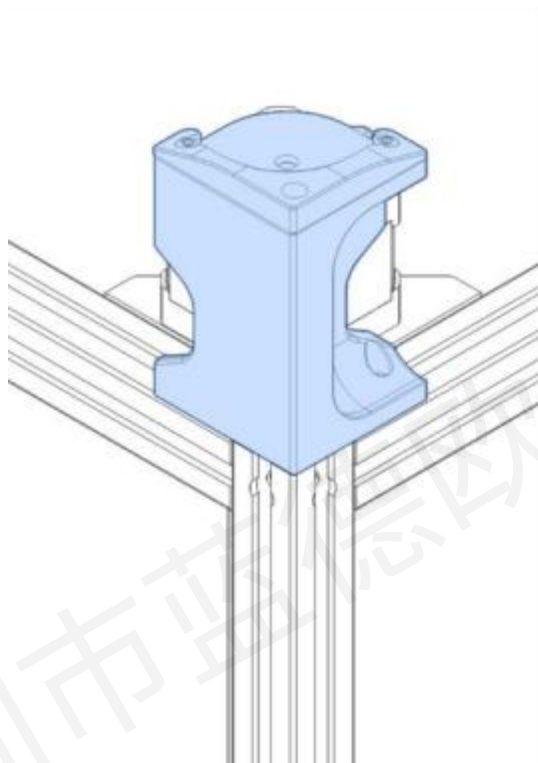
脚座



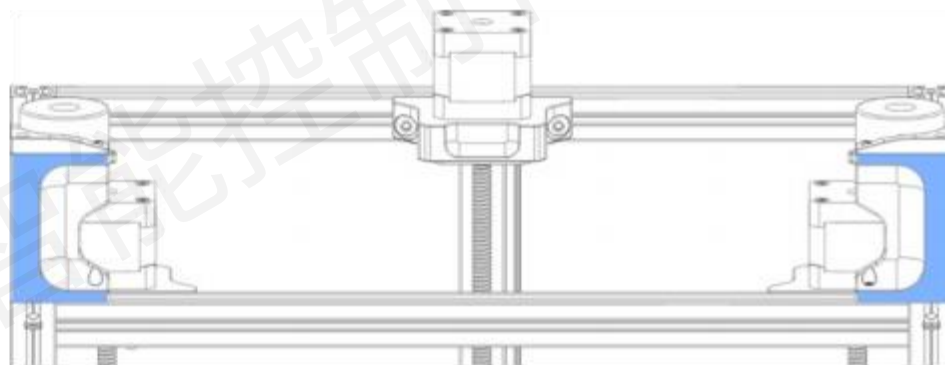
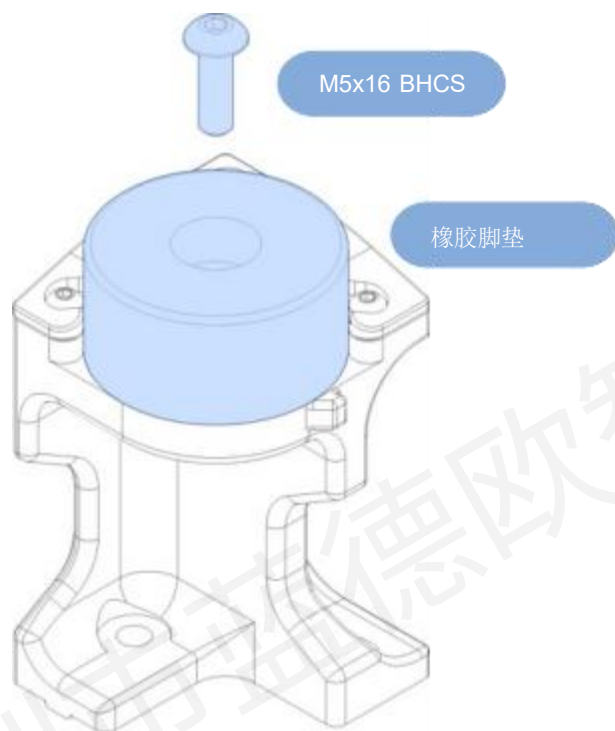
注意零件方向

上图所示的轮廓朝向打印机的前部和后部。

脚座

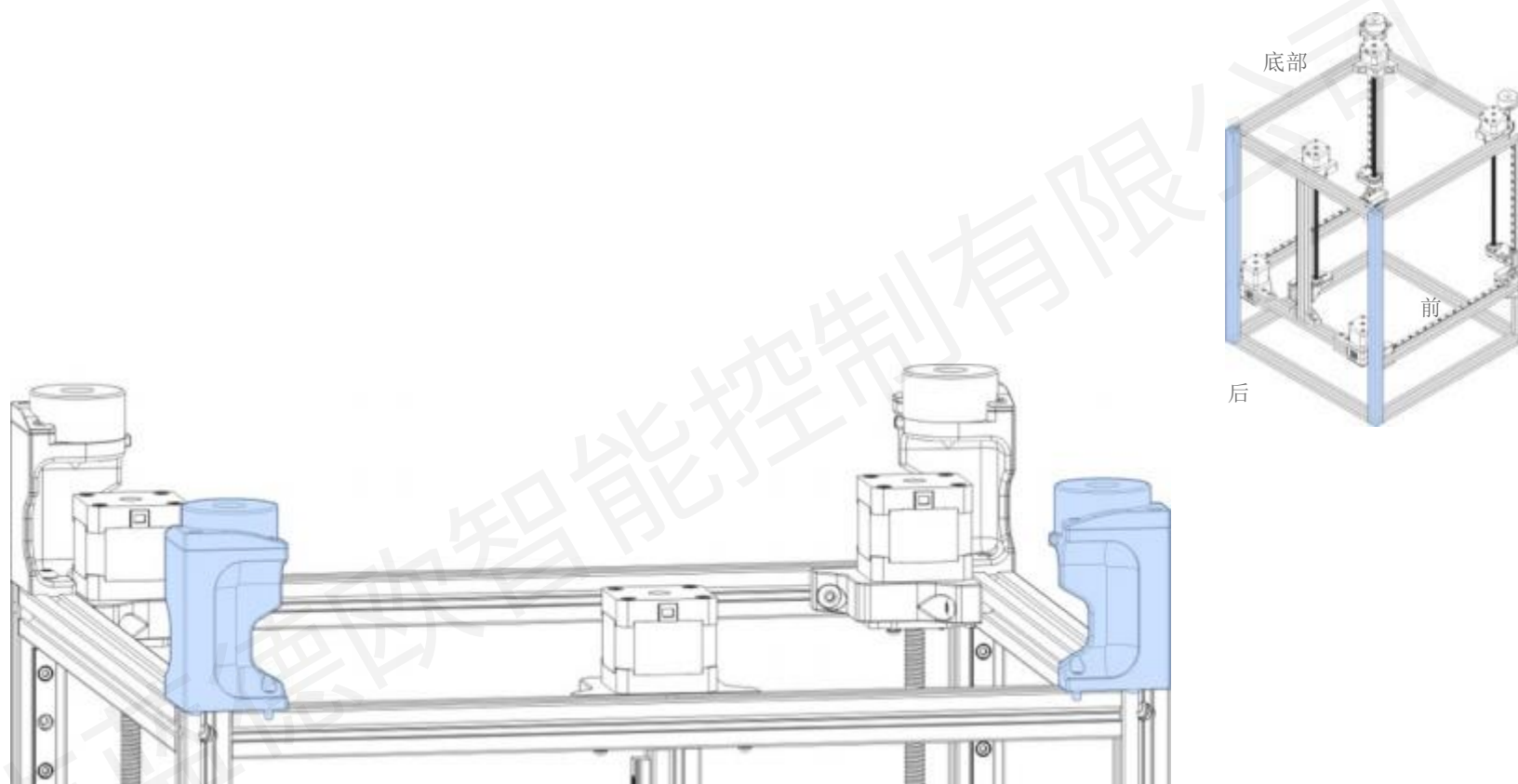


脚座



注意部件朝向：上方所示的轮廓为打印机的前部和后部。

脚座

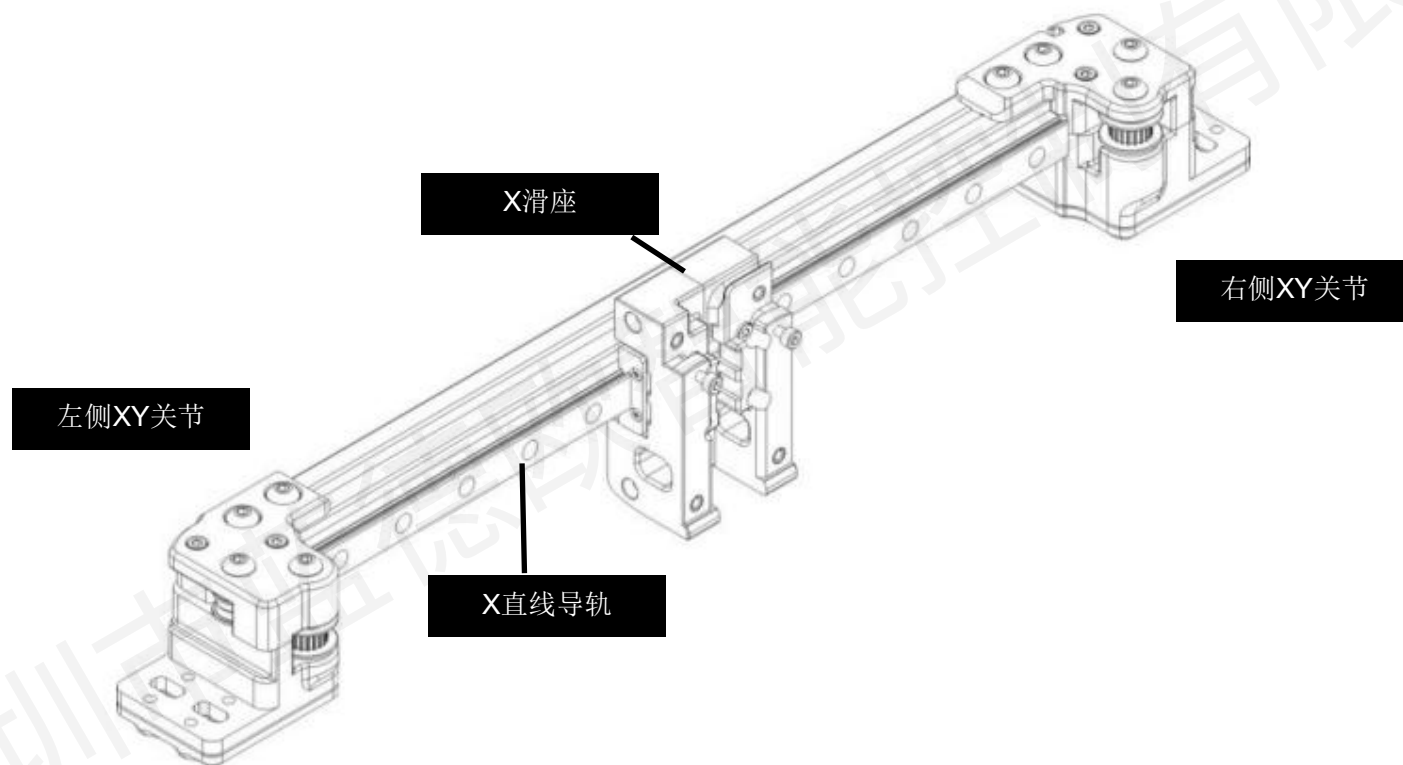


注意零件方向：上图所示的轮廓朝向打印机的前部和后部。

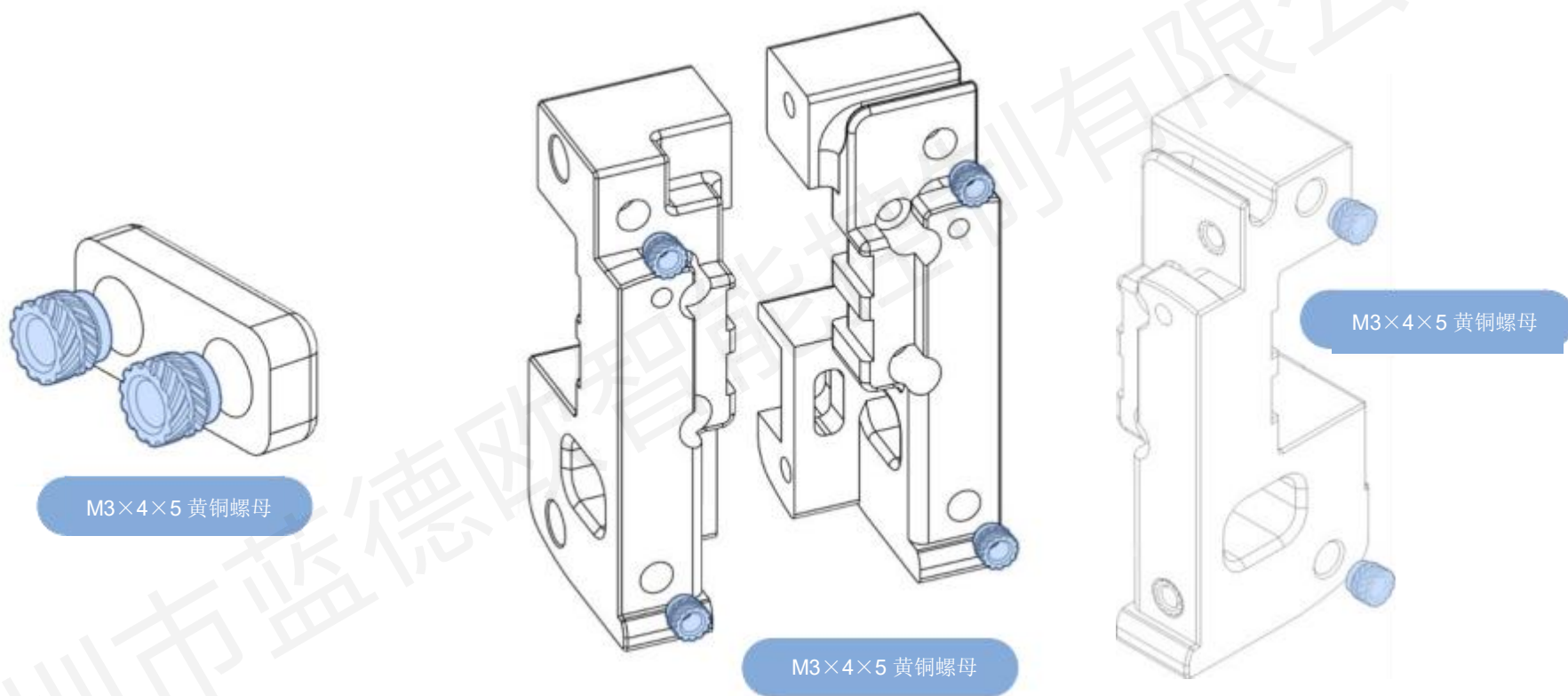
X 轴



概述



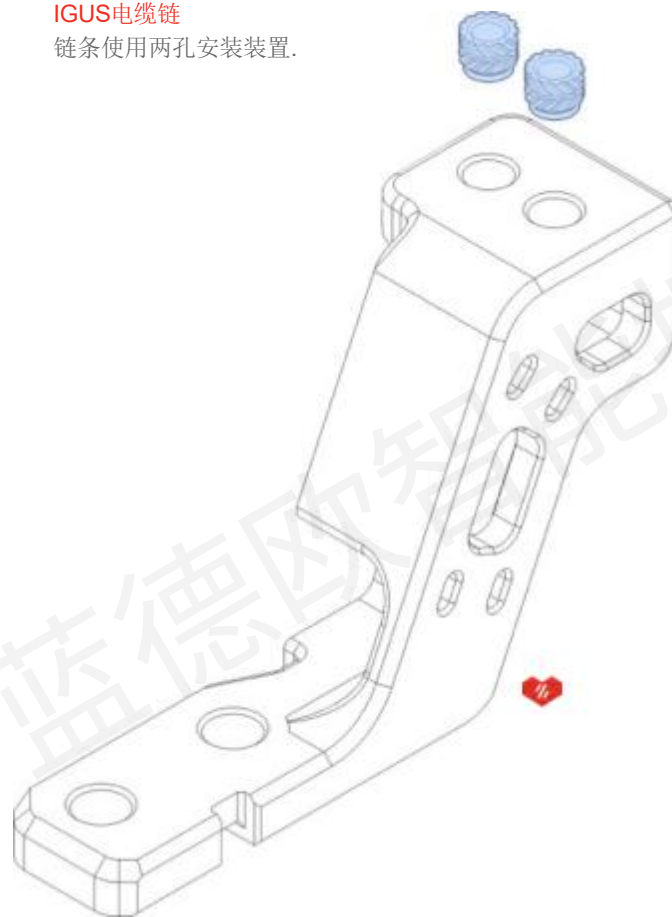
部件准备



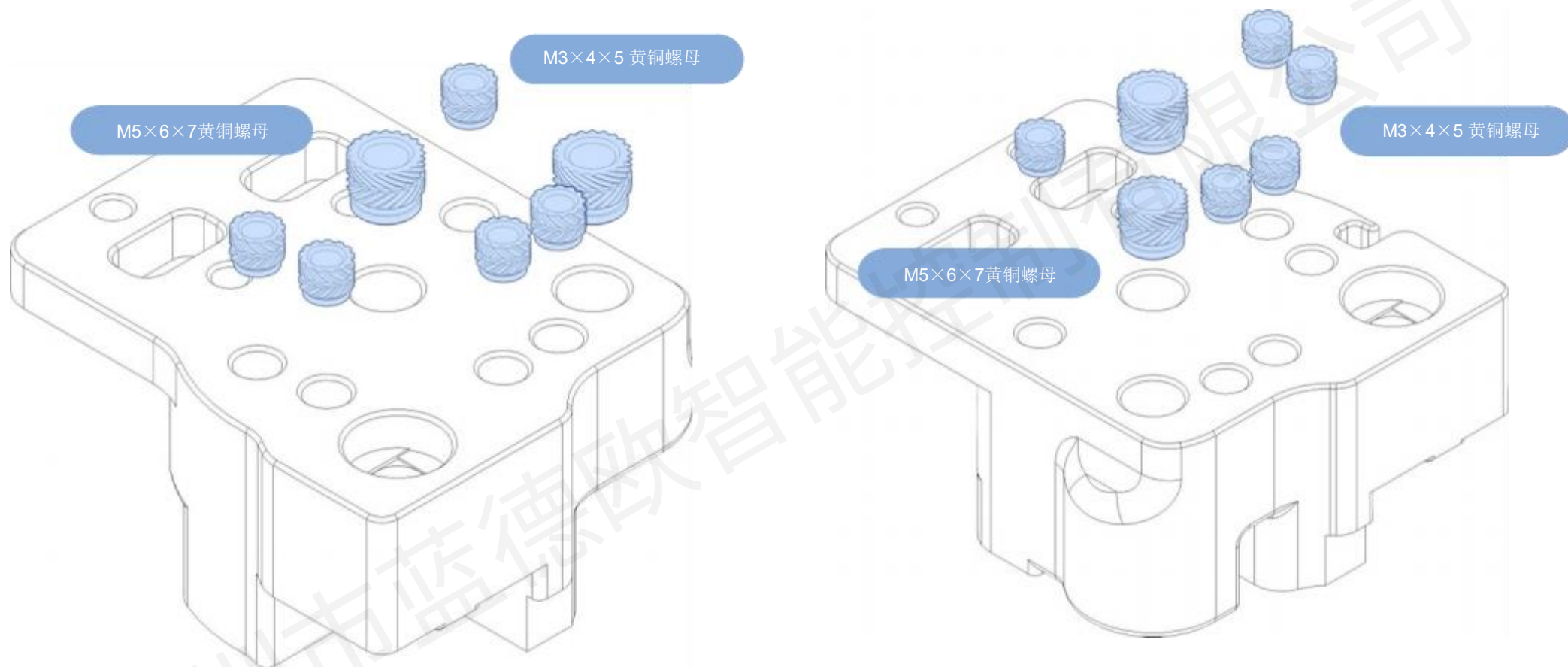
部件准备

IGUS电缆链

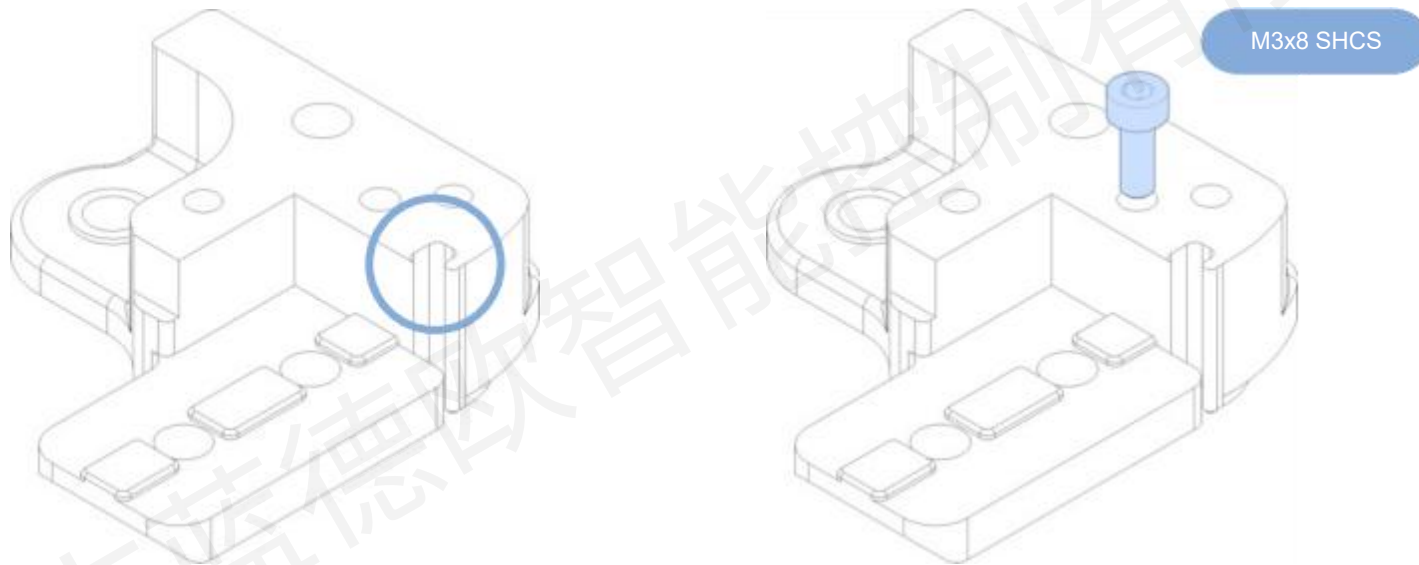
链条使用两孔安装装置.



部件准备



右侧XY关节



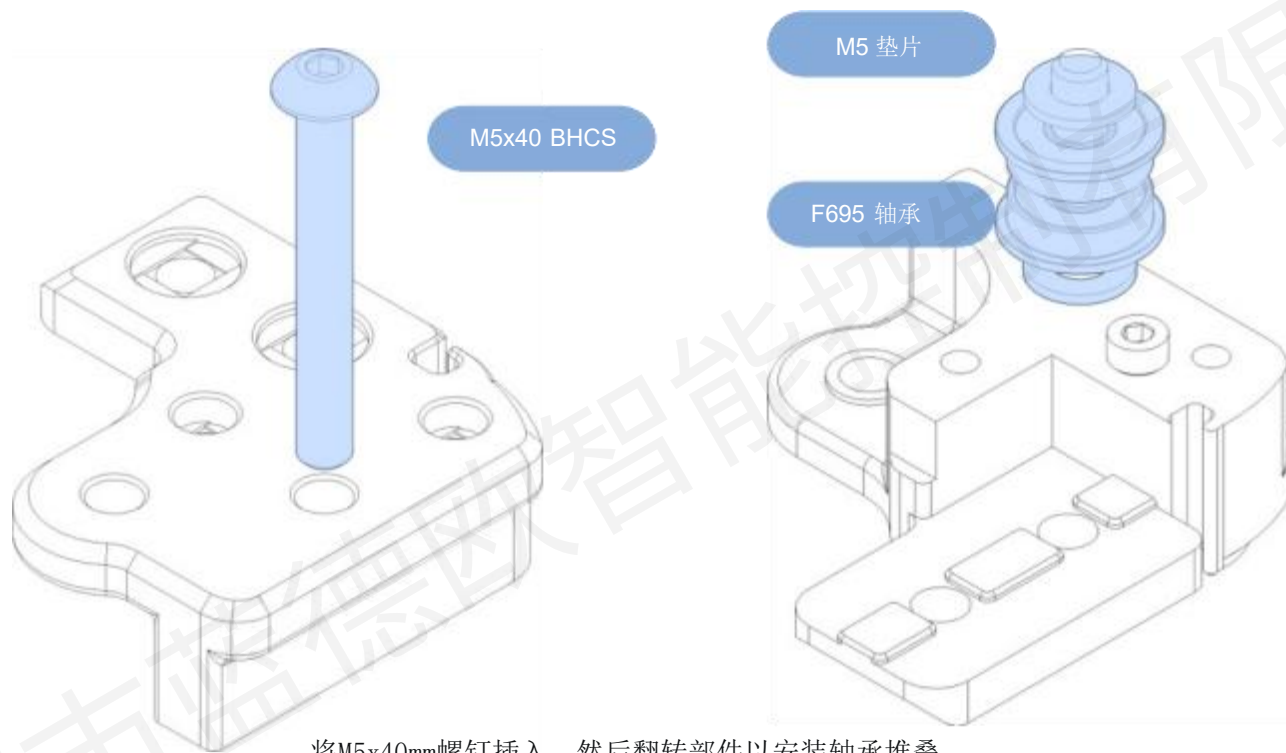
线缆路径:

右侧XY接头的印刷部件上有一个小槽，用于引导限位开关的导线。

定位螺丝:

该螺钉用于对准XY接头的上下两半部分。

右侧XY关节

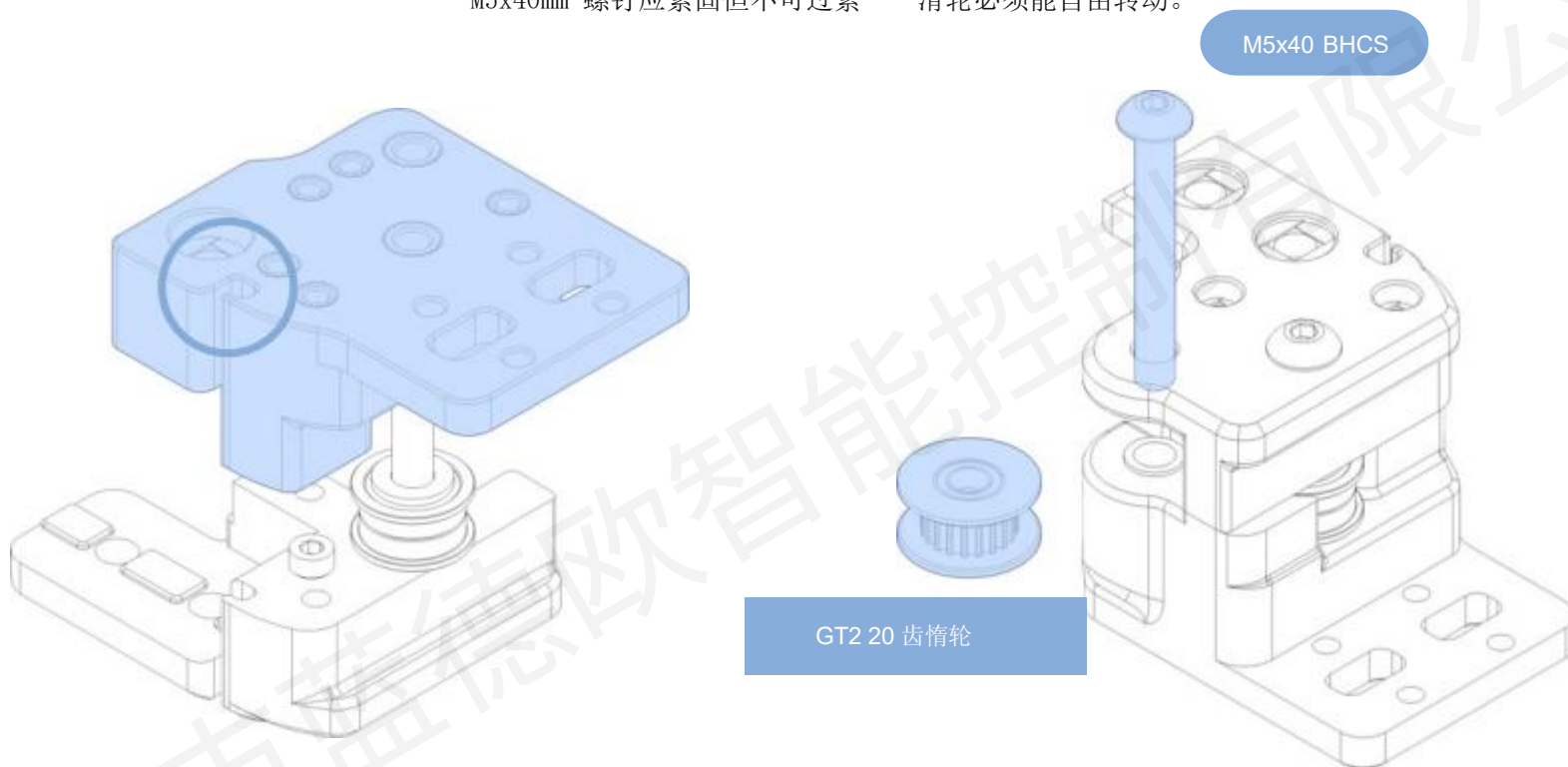


将M5x40mm螺钉插入，然后翻转部件以安装轴承堆叠。

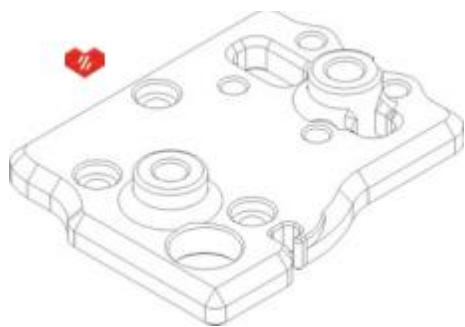
右侧XY关节

保持松动:

M5x40mm 螺钉应紧固但不可过紧——滑轮必须能自由转动。

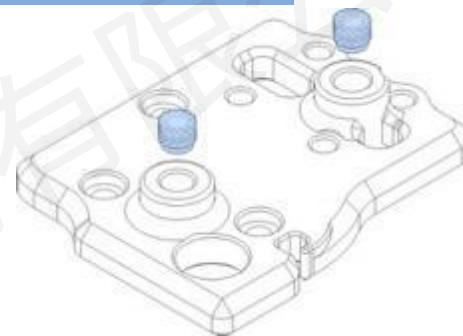


右侧XY关节

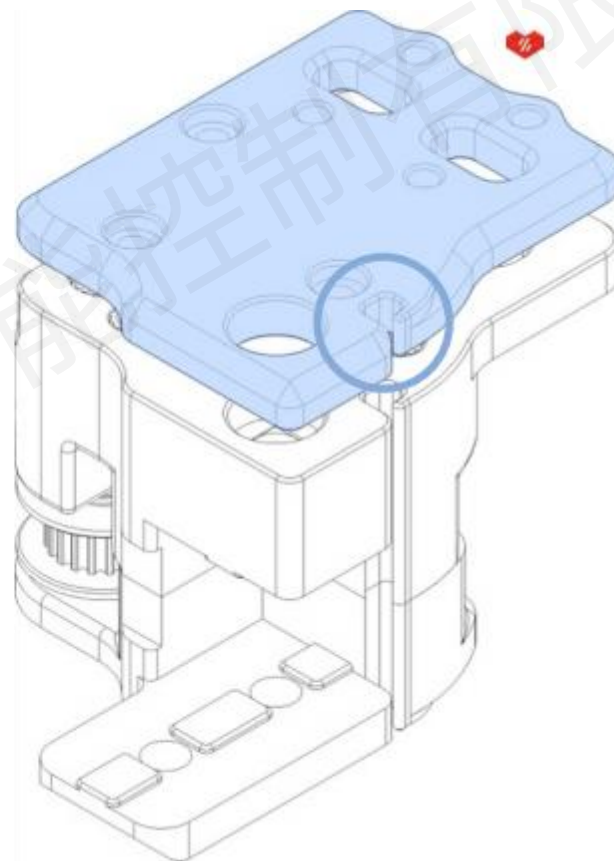
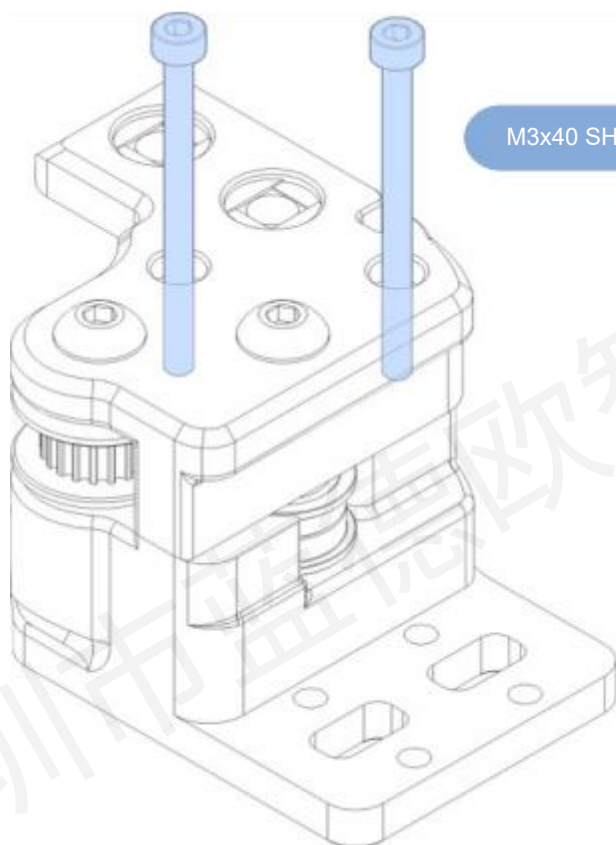


X, Y 限位开关：在运行端子停止PCB时，请使用此XY关节装饰部件。

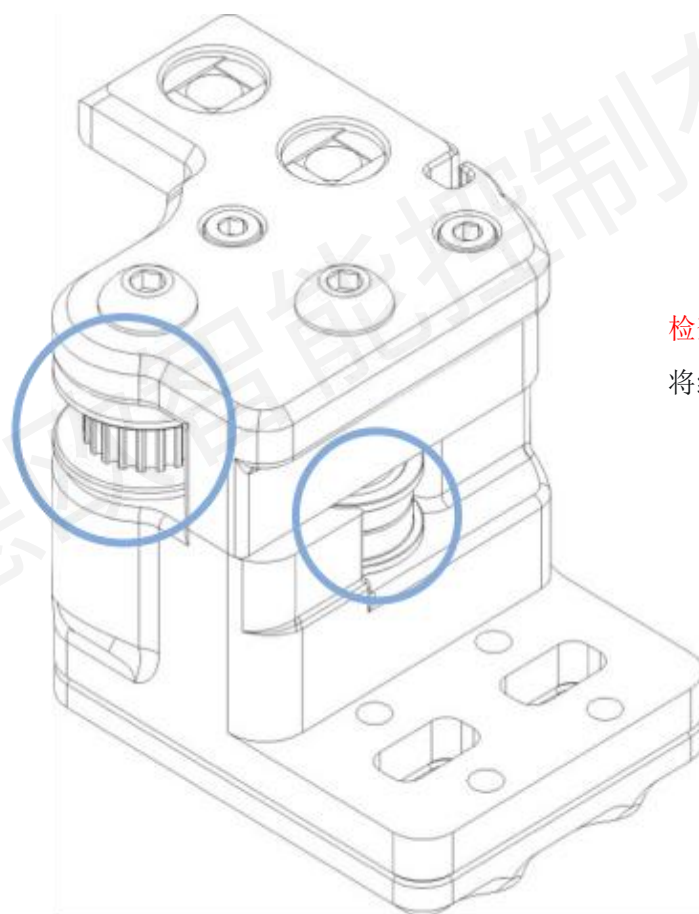
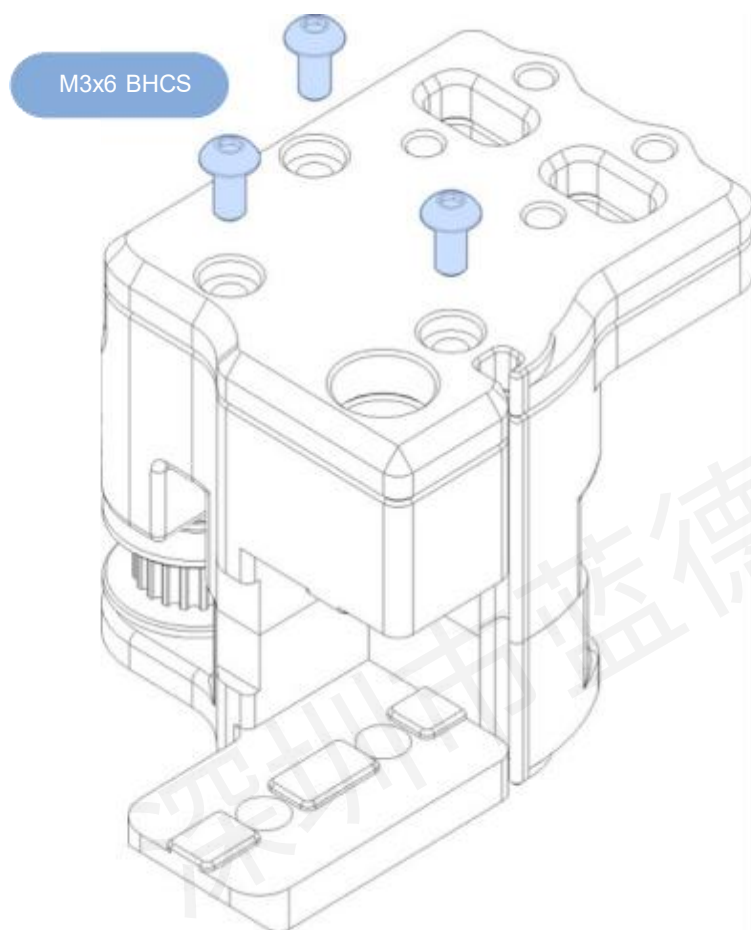
M3×4×5 黄铜螺母



右侧XY关节



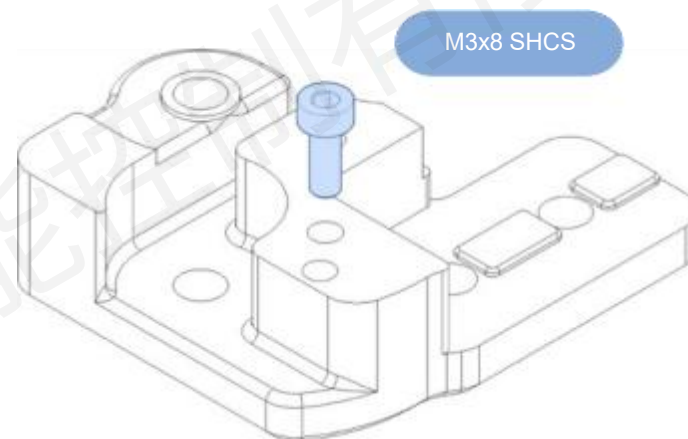
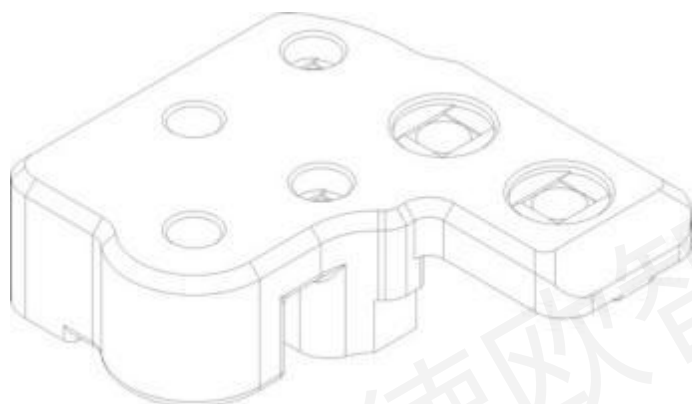
右侧XY关节



检查工作:

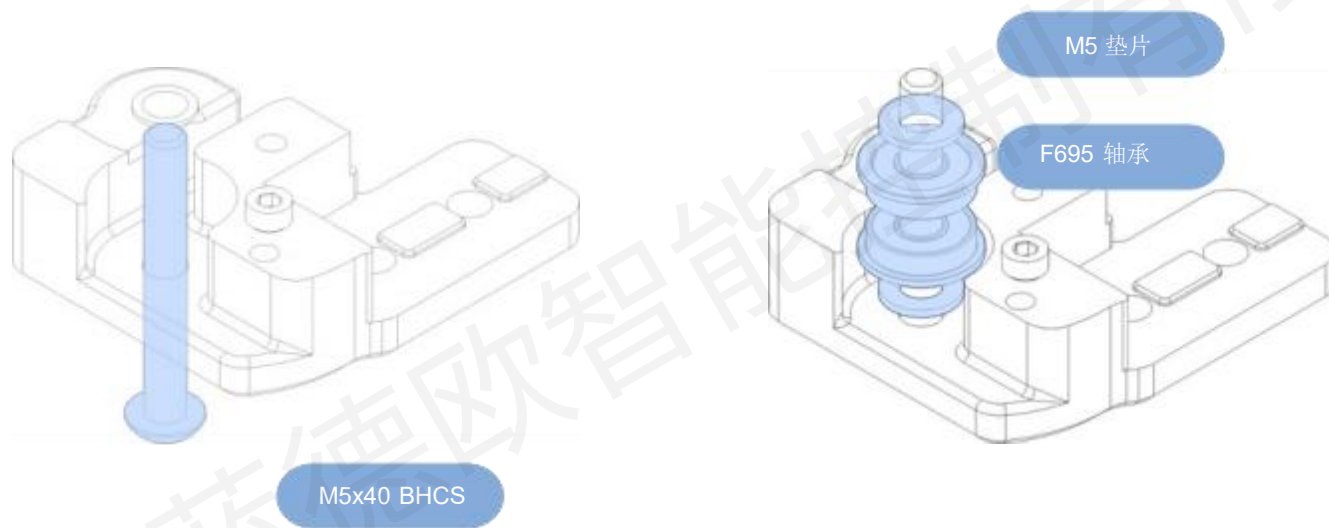
将组装好的部件与此处所示的图形进行比对。

左侧XY关节

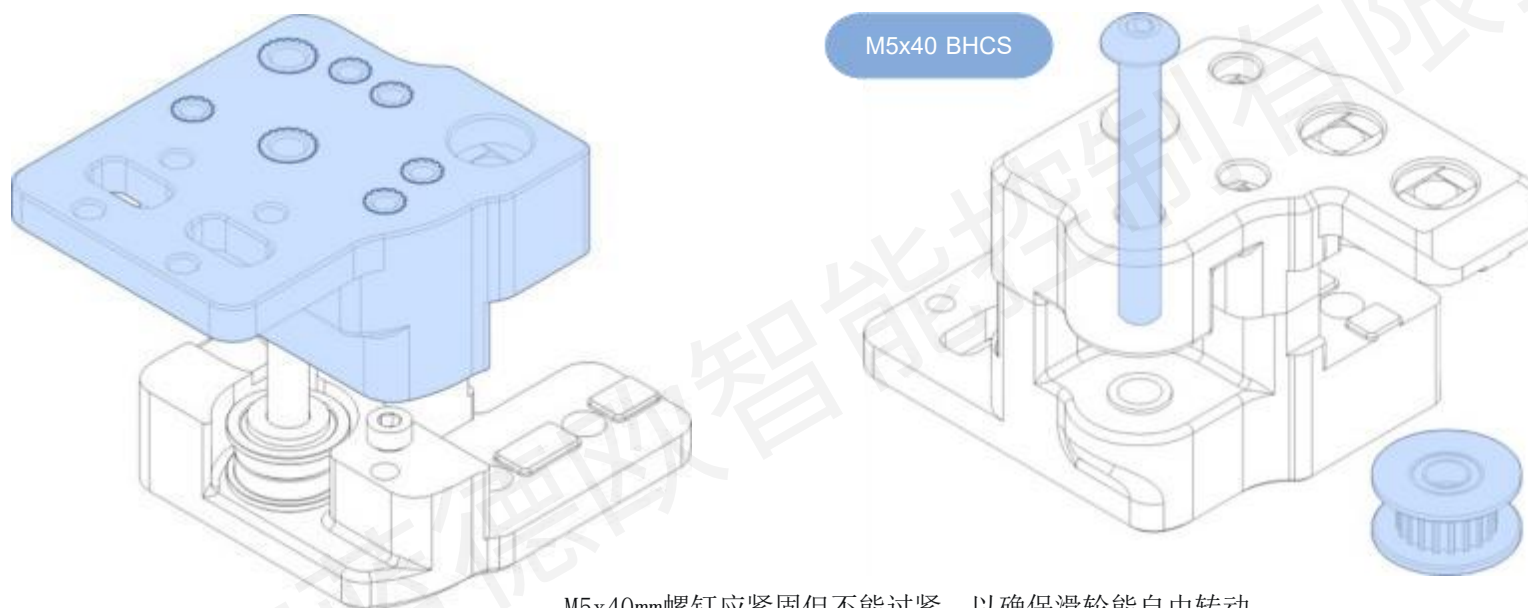


定位螺丝：该螺钉用于对准XY接头的上下两半部分。

左侧XY关节



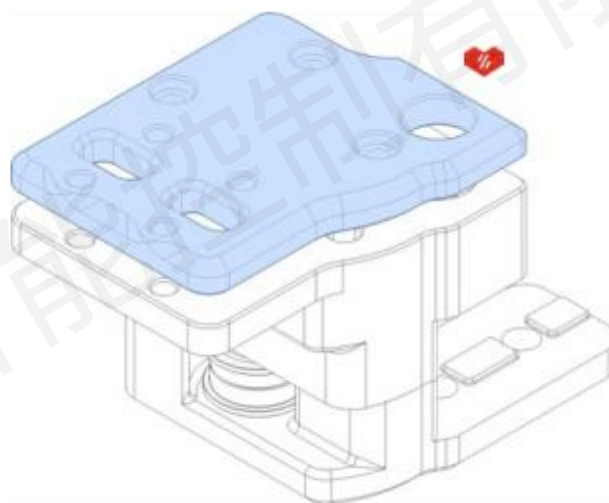
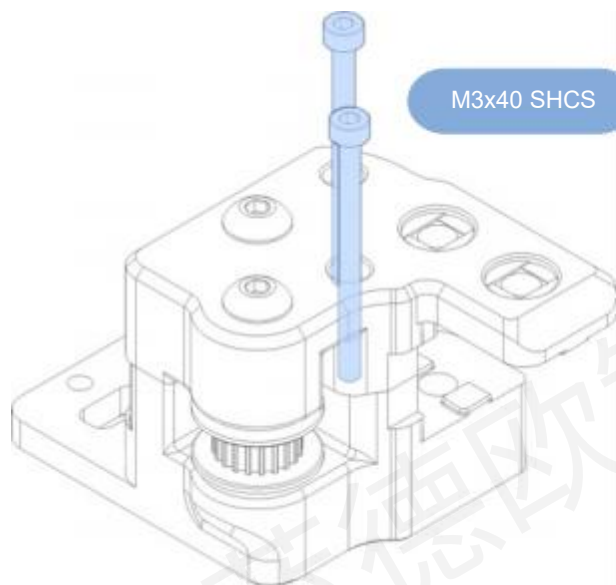
左侧XY关节



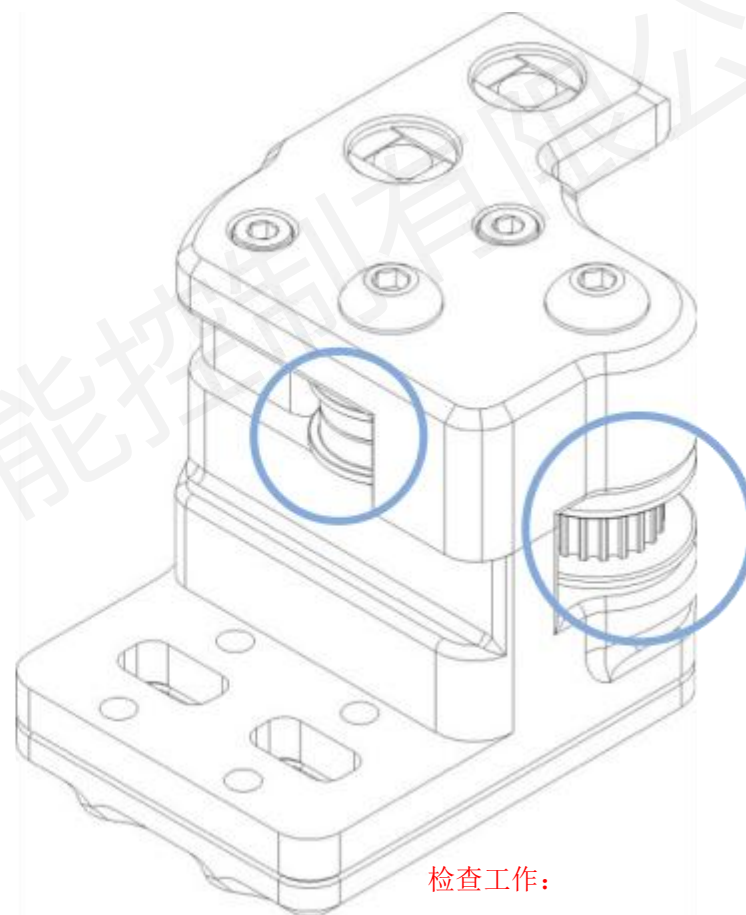
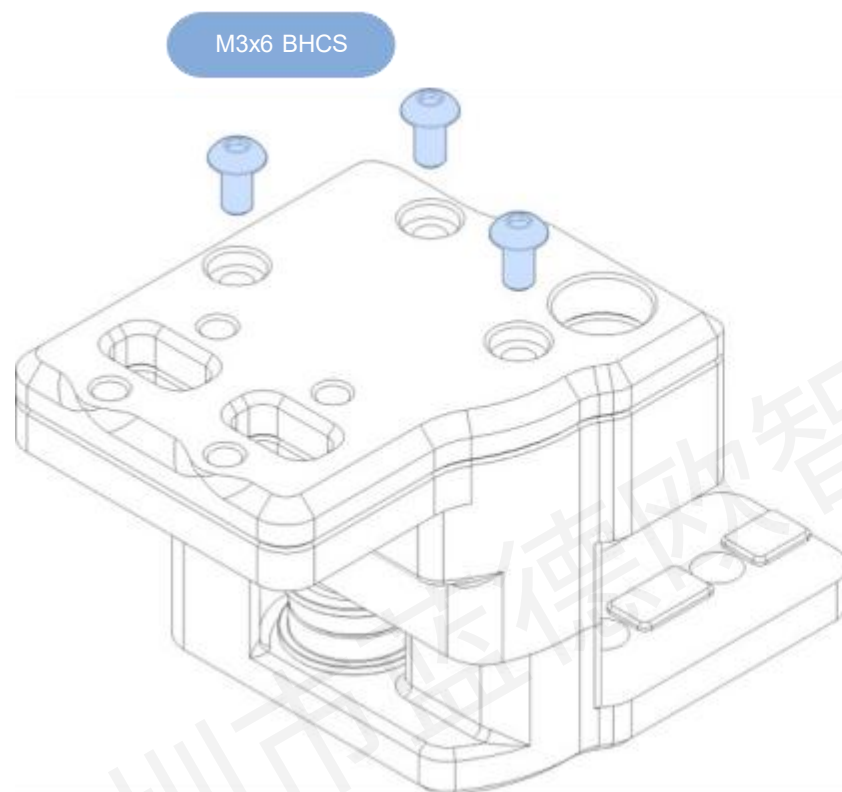
M5x40mm螺钉应紧固但不能过紧，以确保滑轮能自由转动。

GT2 20齿惰轮

左侧XY关节



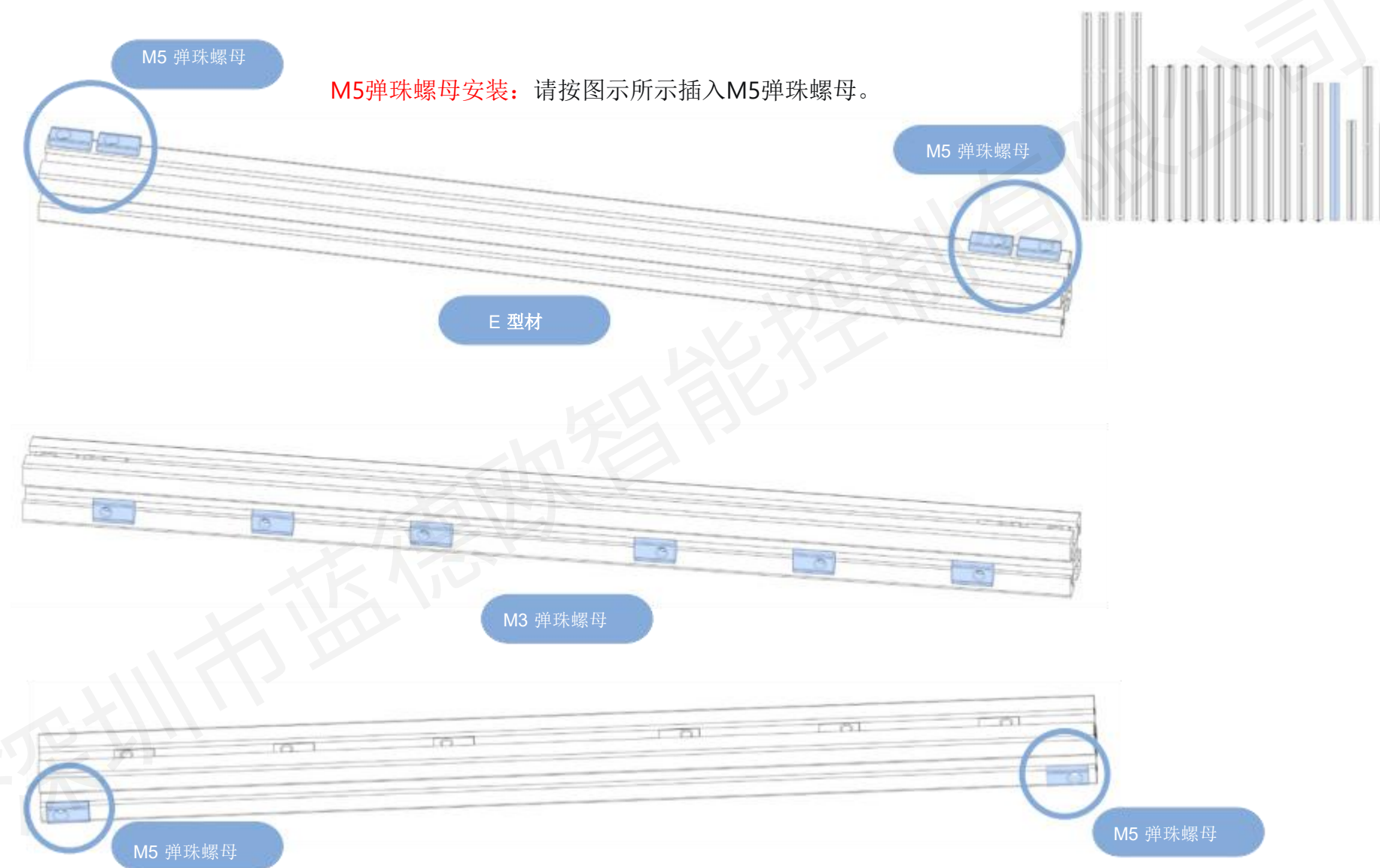
左侧XY关节



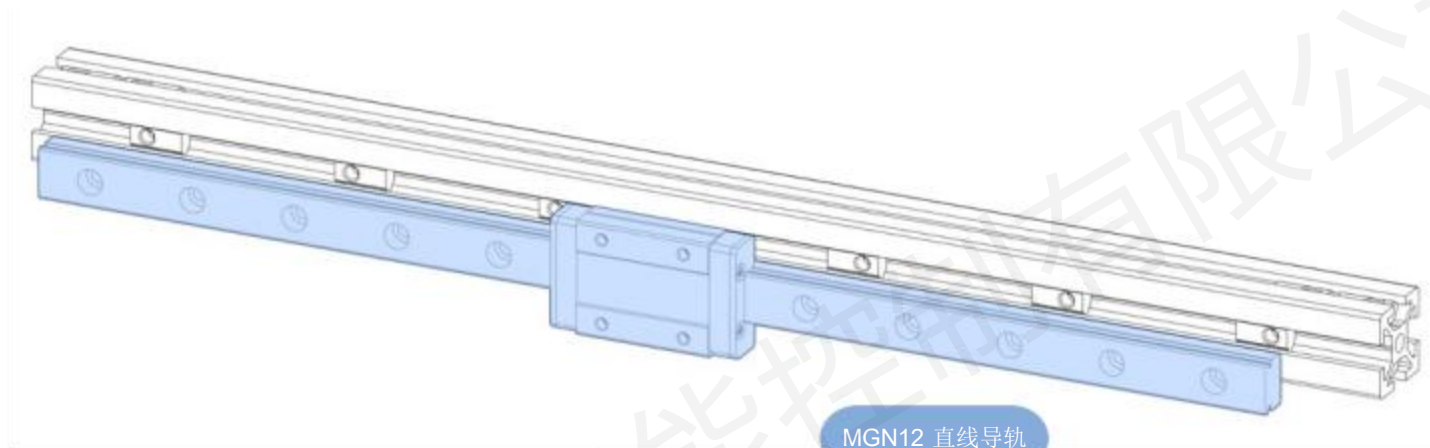
检查工作：

将组装好的部件与此处所示的图形进行比对。

X 轴

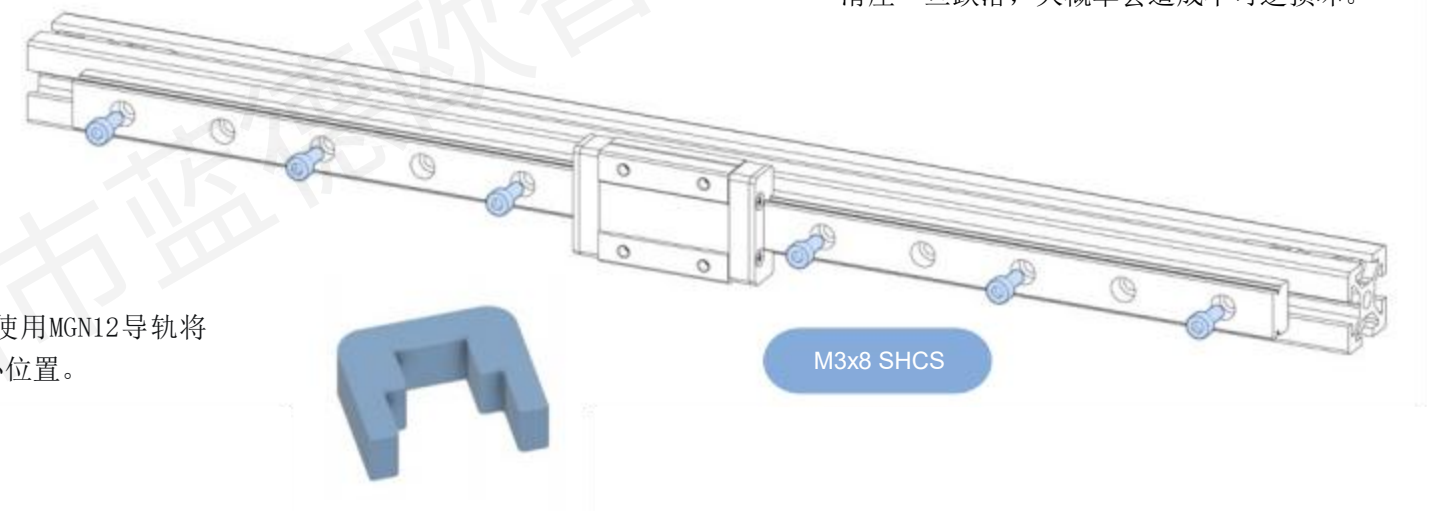


X 轴



MGN12 直线导轨

使用固定工具临时固定滑座，防止其从导轨滑脱。
滑座一旦跌落，大概率会造成不可逆损坏。

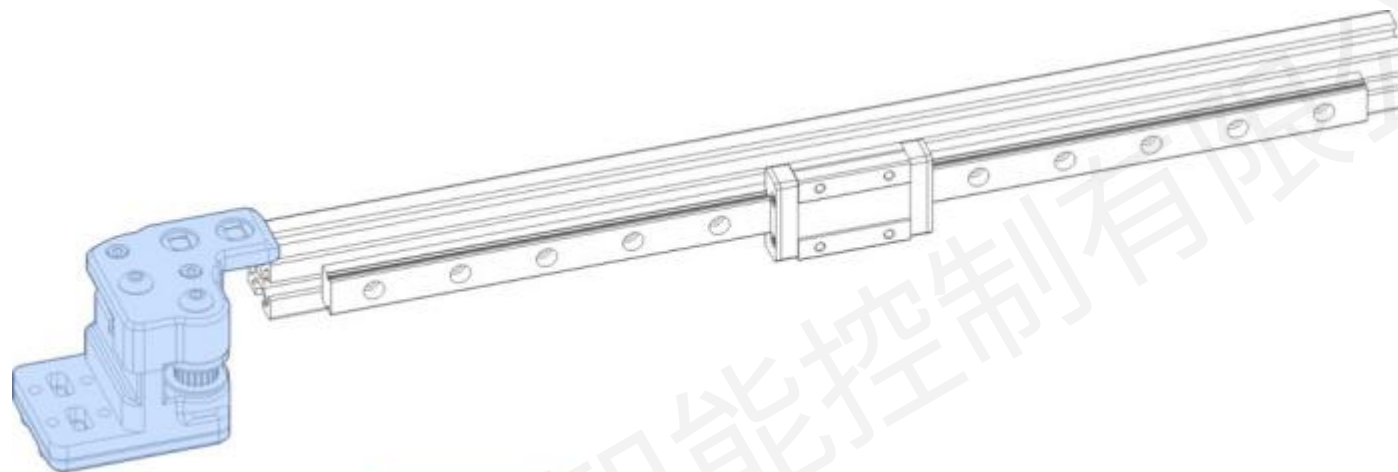


M3x8 SHCS

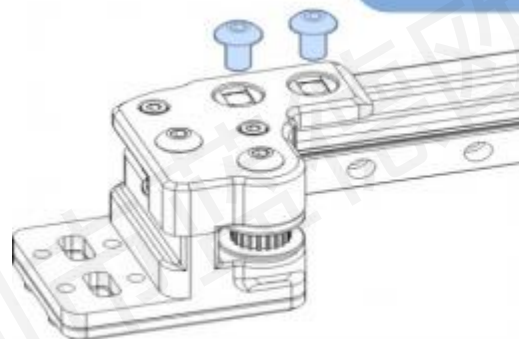
中心轨道安装指南：

在拧紧螺丝之前，请使用MGN12导轨将
轨道定位到型材的中心位置。

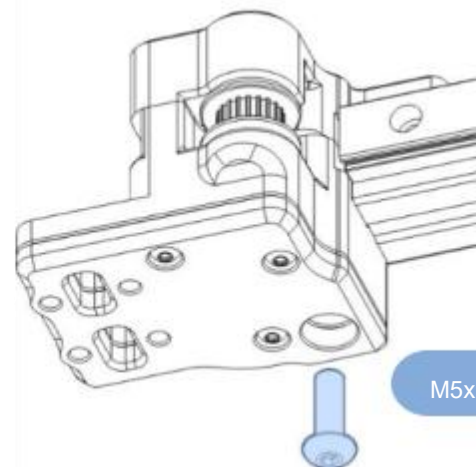
X 轴



M5x10 BHCS

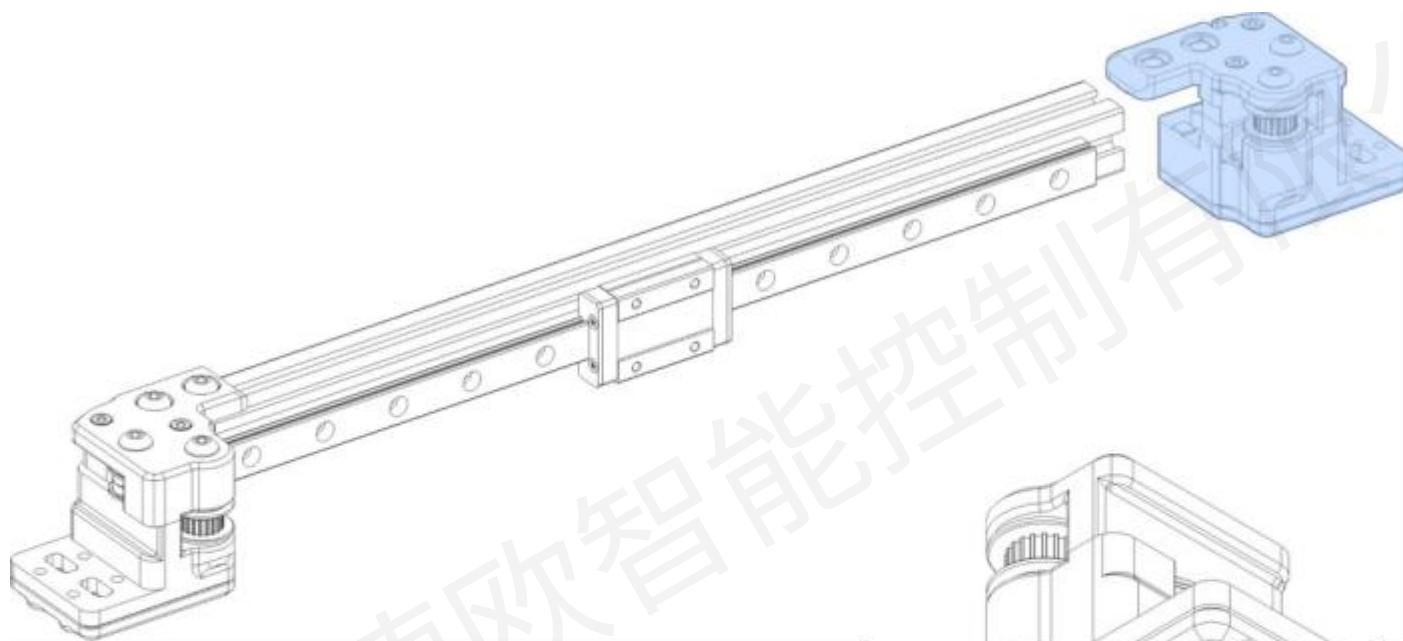


松开螺丝，轻轻拧紧。

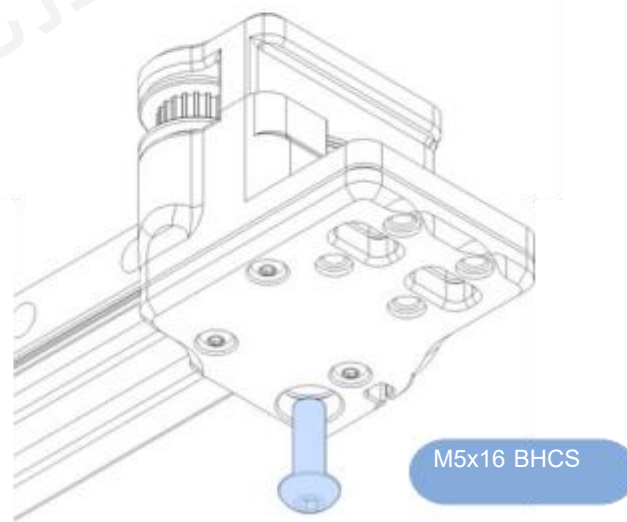


M5x16 BHCS

X 轴

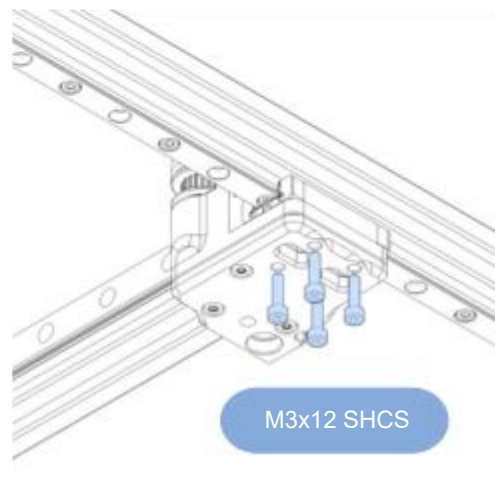
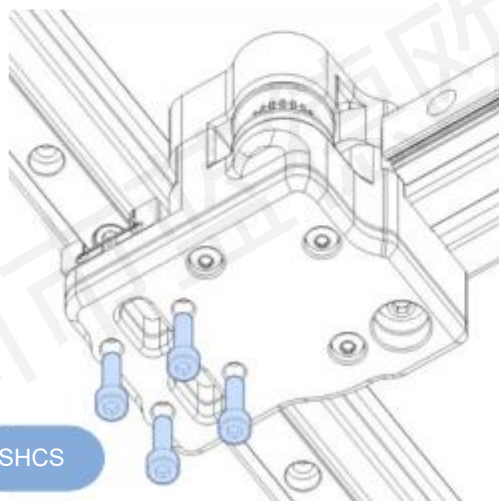
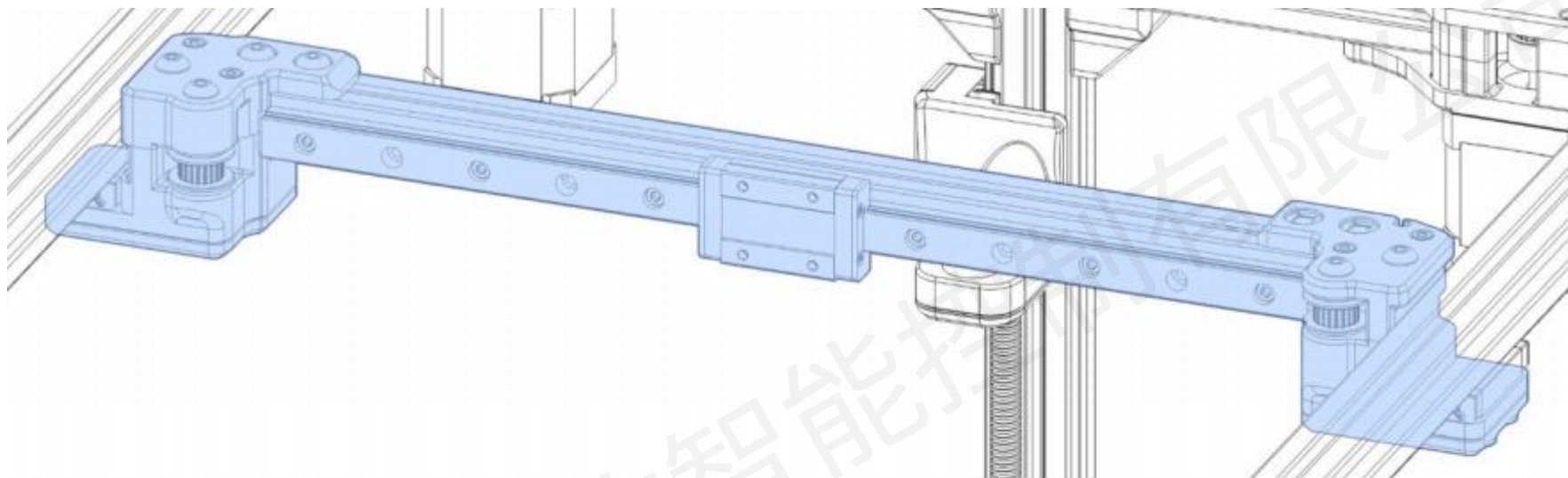


松开螺丝，轻轻拧紧。

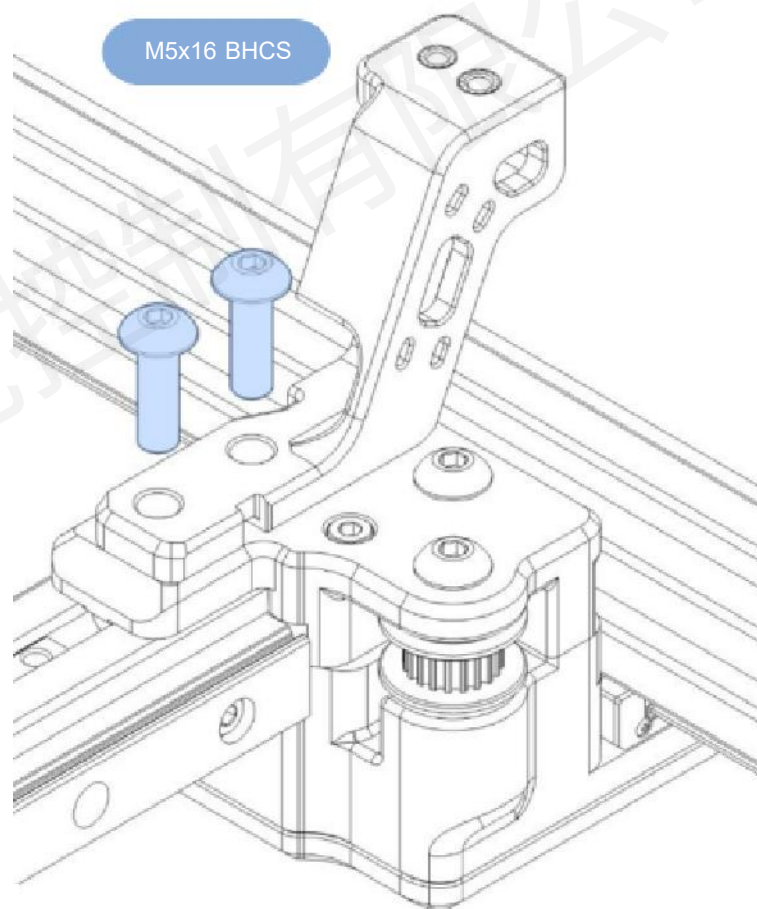
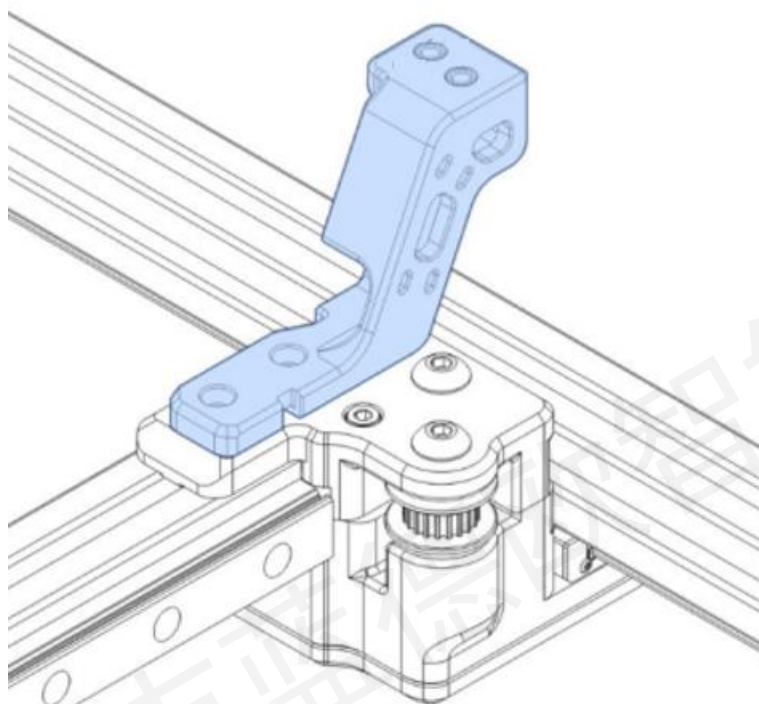


M5x16 BHCS

X 轴

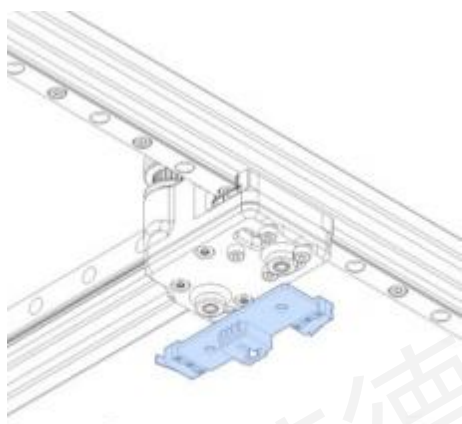


XY 链条支架

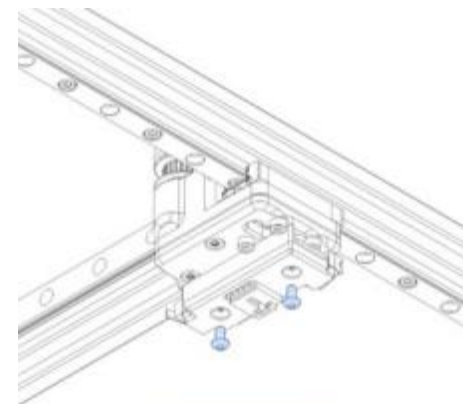
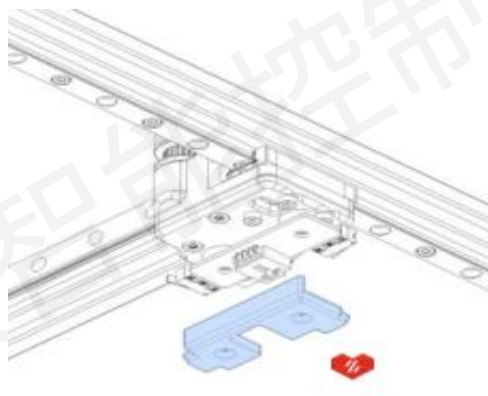


此支架安装在右侧

XY 链条支架



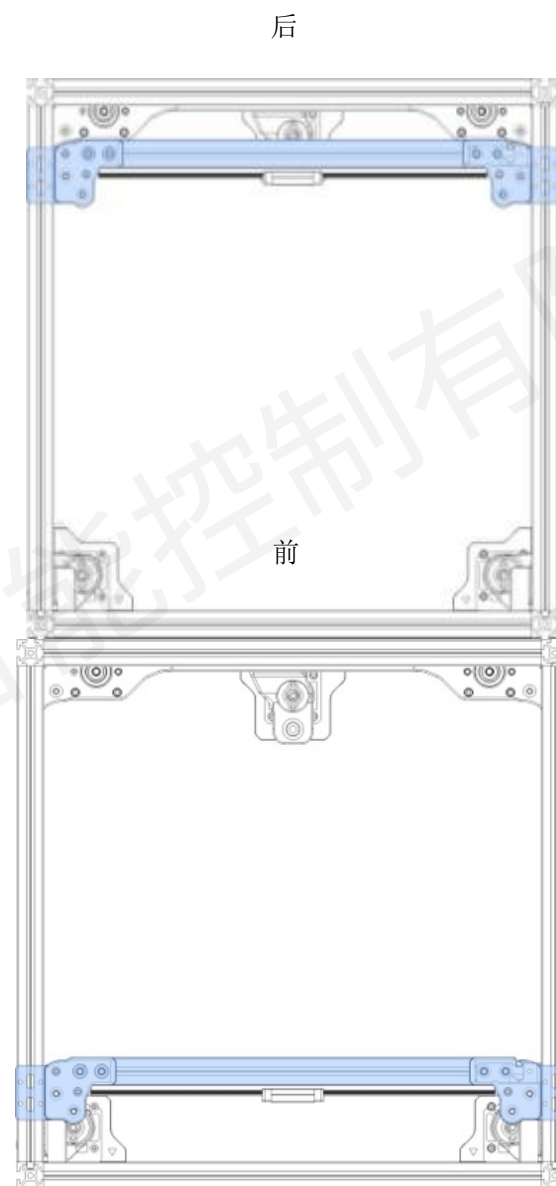
XY限位开关PCB



M3x6 BHCS

X 轴直角校准

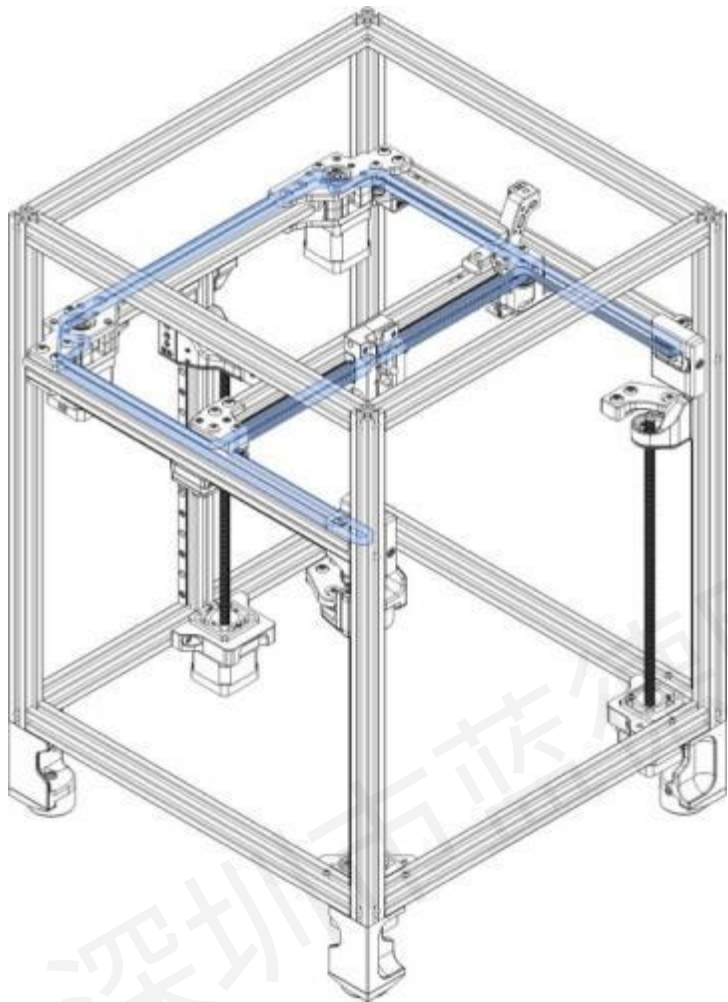
调整龙门架：将龙门架完全向后移动，直到两侧的A轴和B轴驱动装置接触。然后拧紧X轴上的所有螺钉。



皮带



皮带



皮带路径:

VORON 系列 3D 打印机采用主流 CoreXY 传动布局的皮带走线结构。

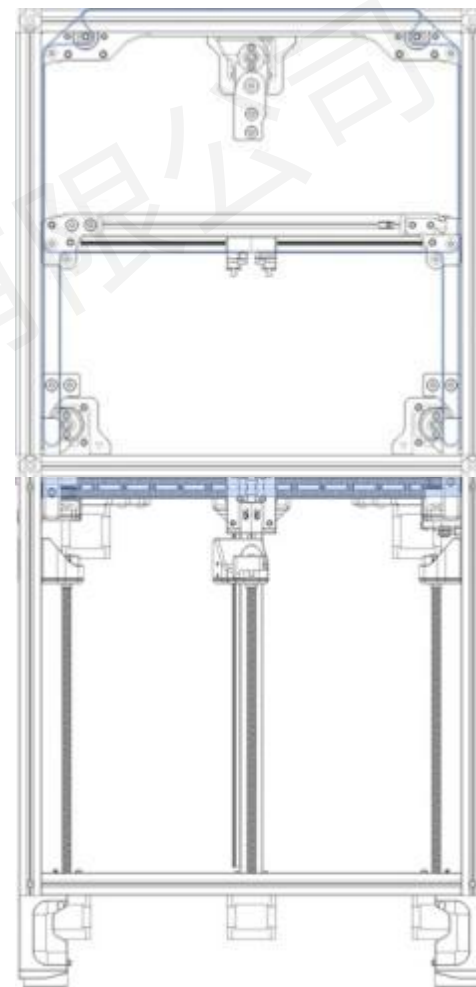
各组皮带分层叠放布置，取消了常规 CoreXY 结构中常见的皮带交叉设计。相较于多数同类 CoreXY 方案，本机型将电机布置在占用空间更小、不干涉装配的位置。

皮带张力要点

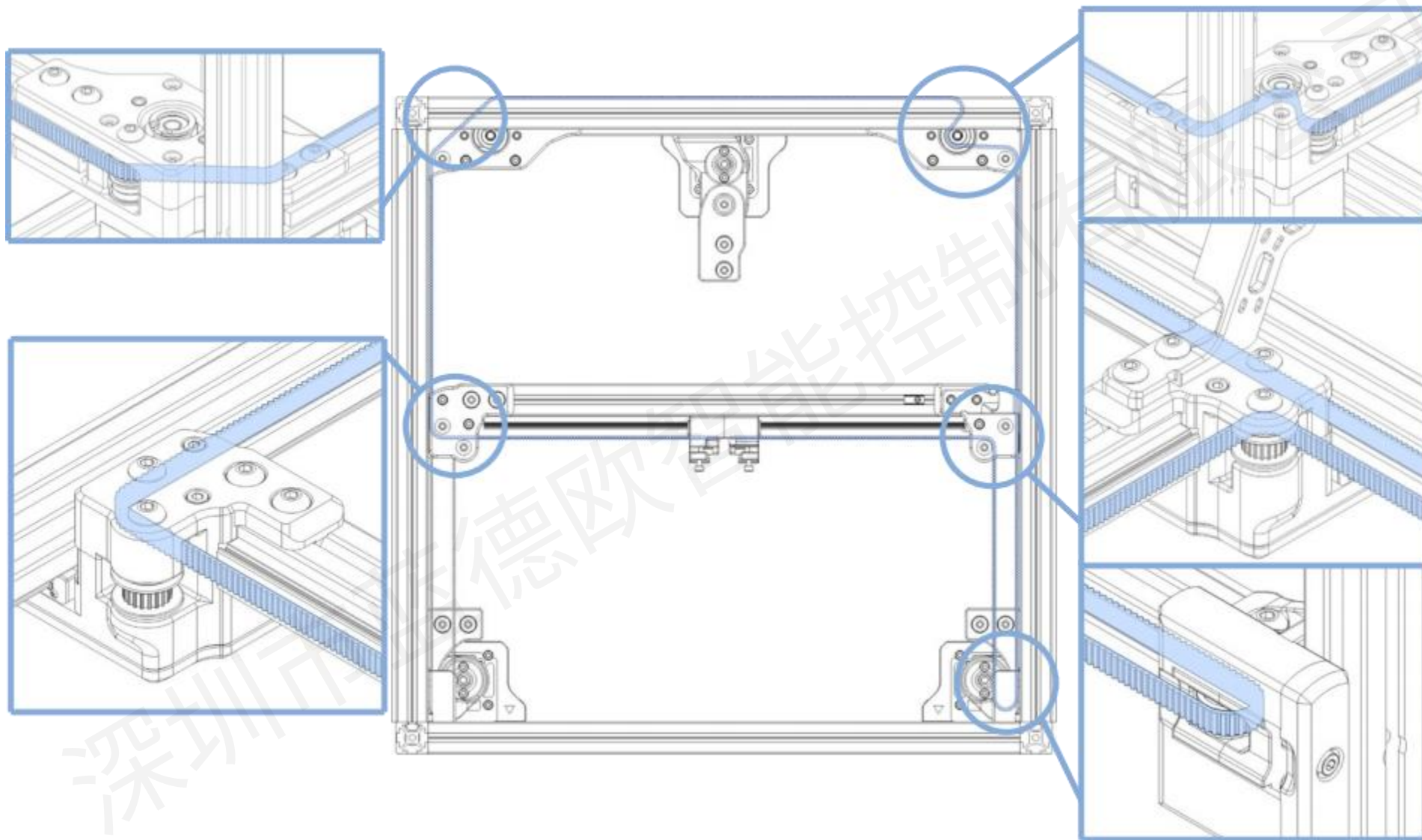
两条皮带张力保持一致，是 CoreXY 运动系统稳定运行的关键。推荐操作方法：

1. 先装配第一条皮带，确定适配整机的所需长度；
2. 将该皮带拆下，以此长度为基准裁切第二条皮带，保证两条皮带长度完全一致。

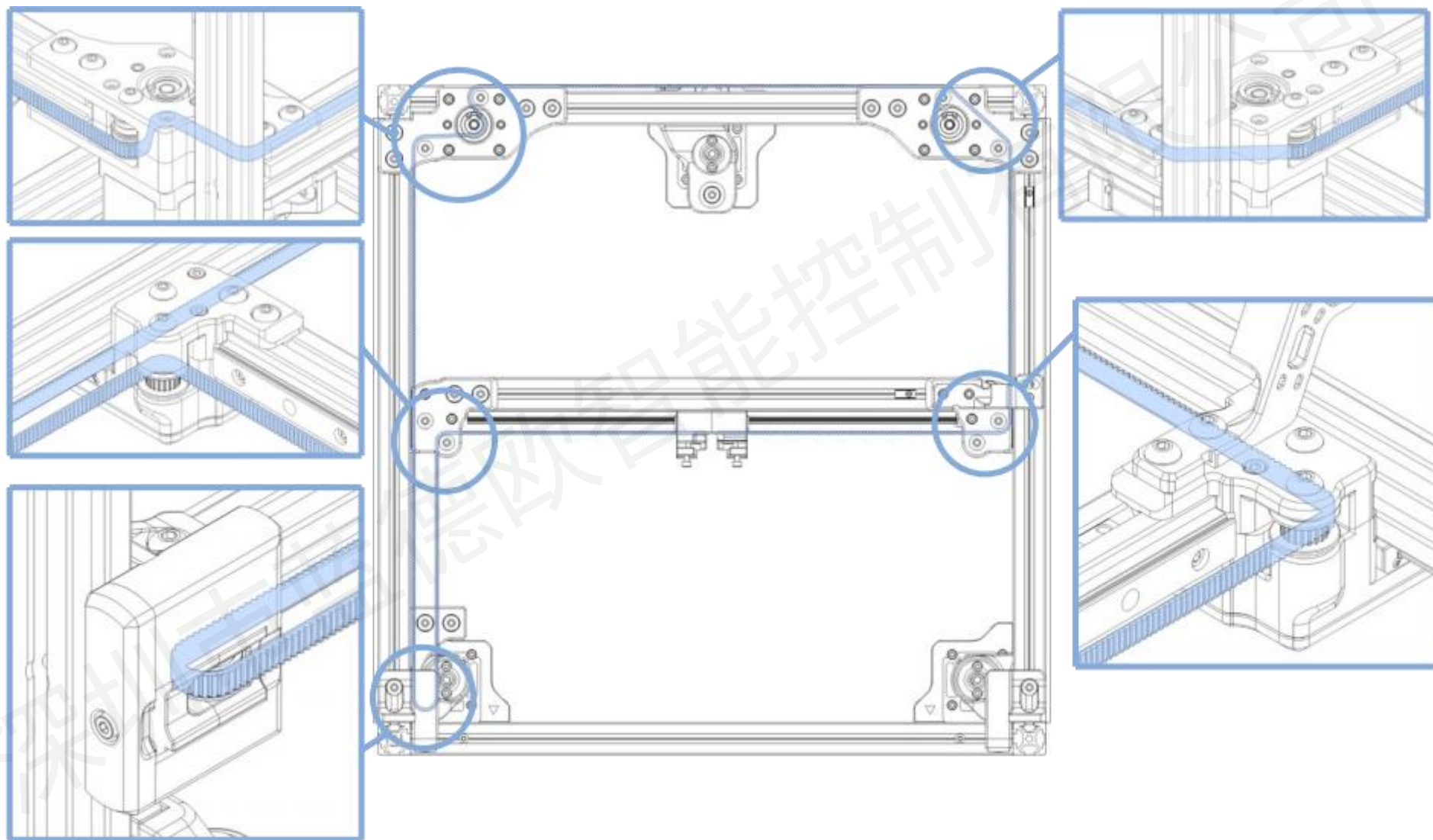
两条皮带等长可快速实现张力均匀统一。



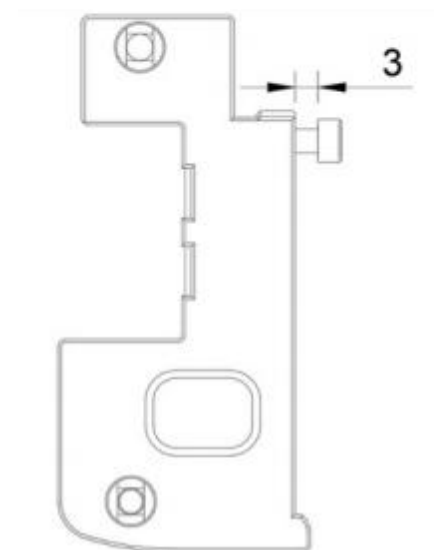
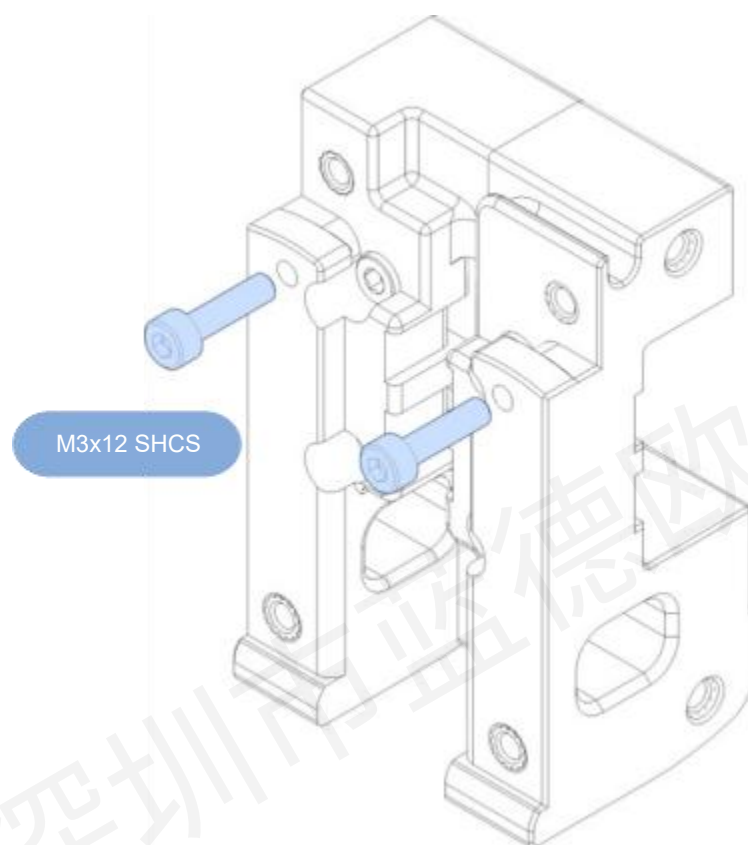
皮带：概述



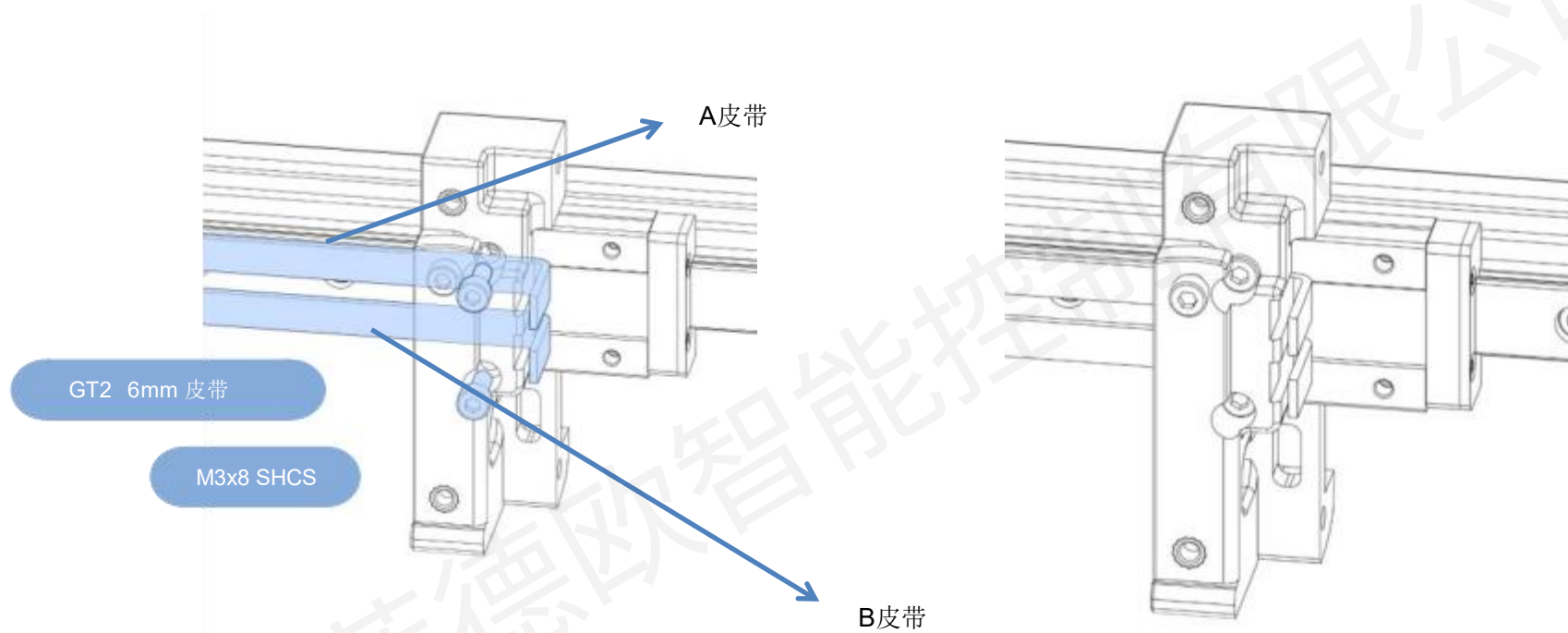
皮带：概述



皮带



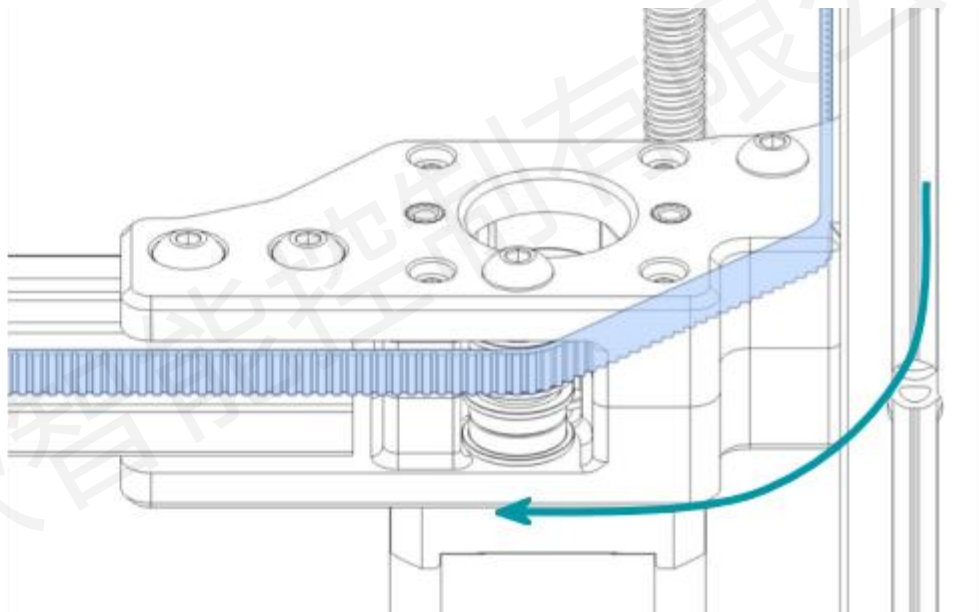
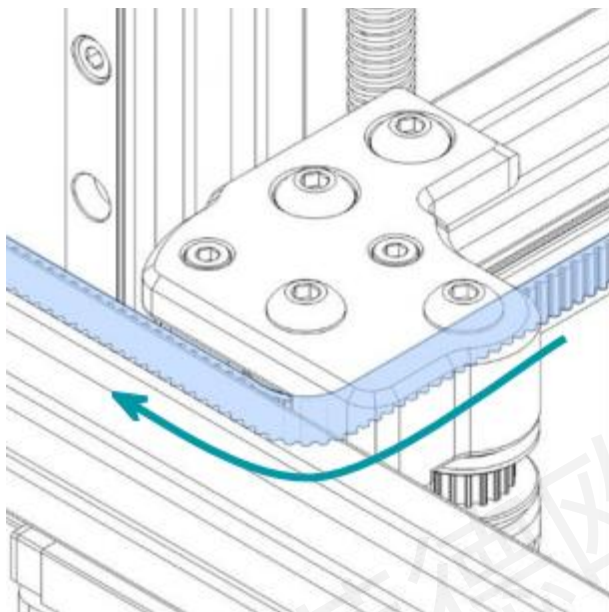
皮带



夹紧皮带

通过安装左侧的X型导轨部件，将A和B两条皮带固定到位。皮带齿应朝远离挤出方向的方向。

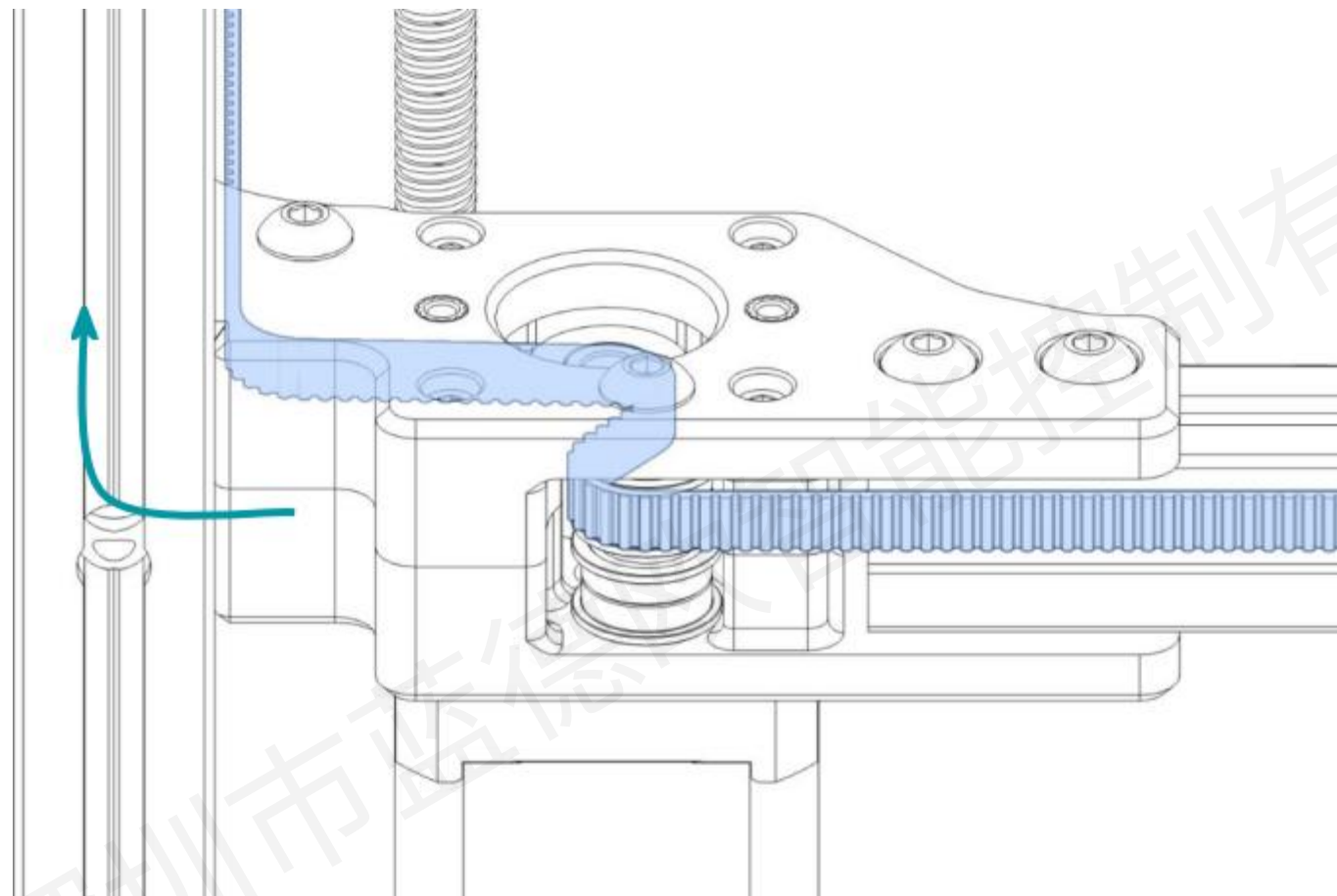
A皮带



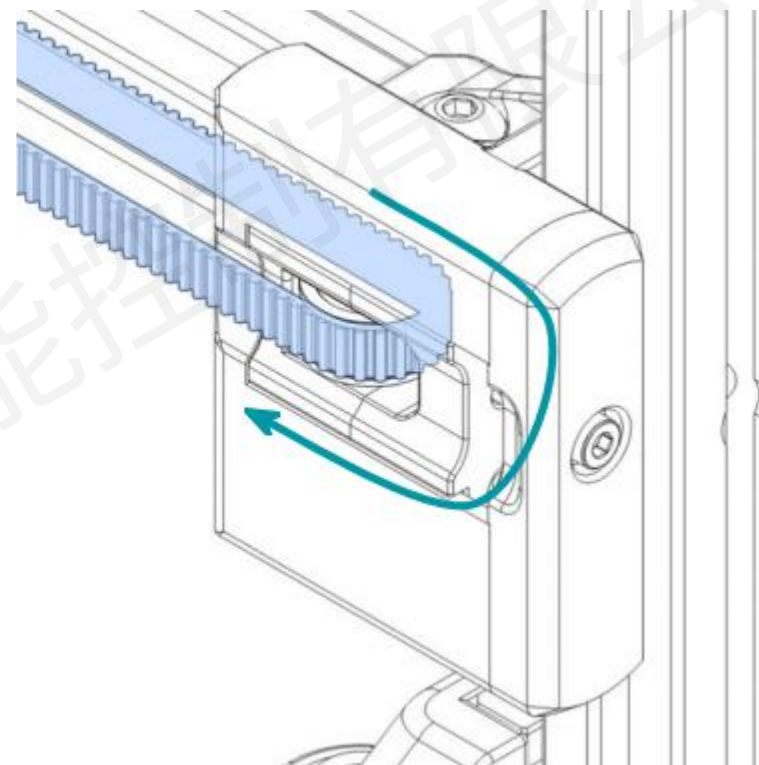
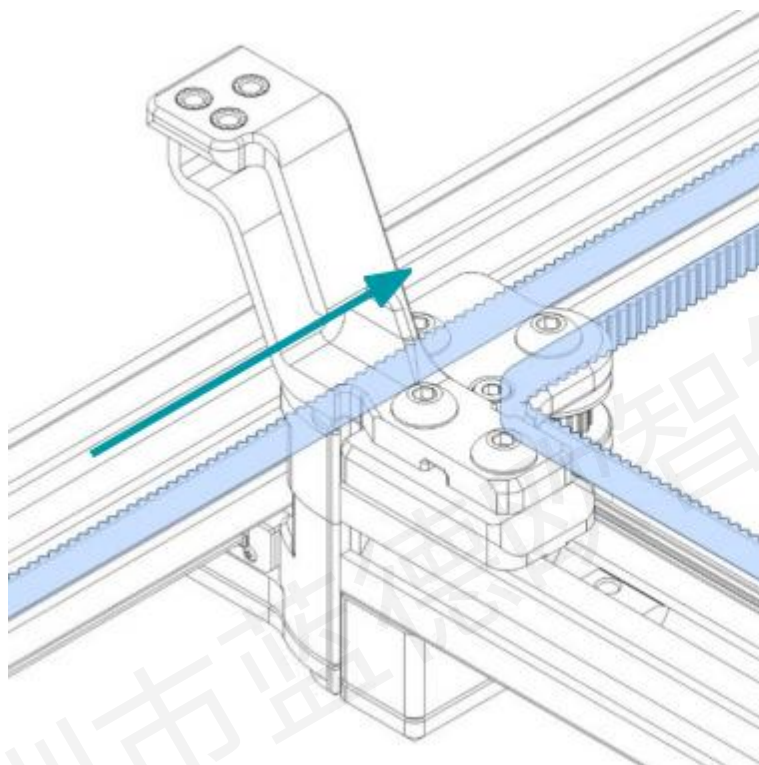
A皮带走线

沿着箭头指示的方向进行。此步骤可使用针鼻钳、镊子或类似工具辅助操作。

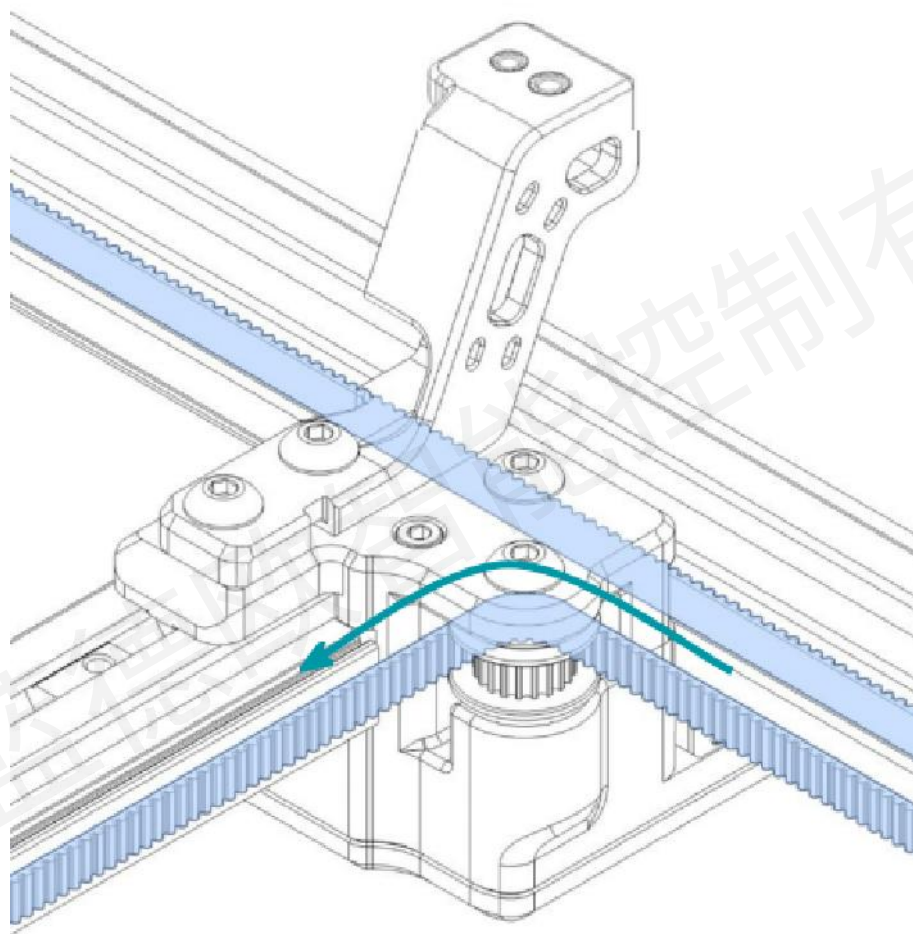
A皮带



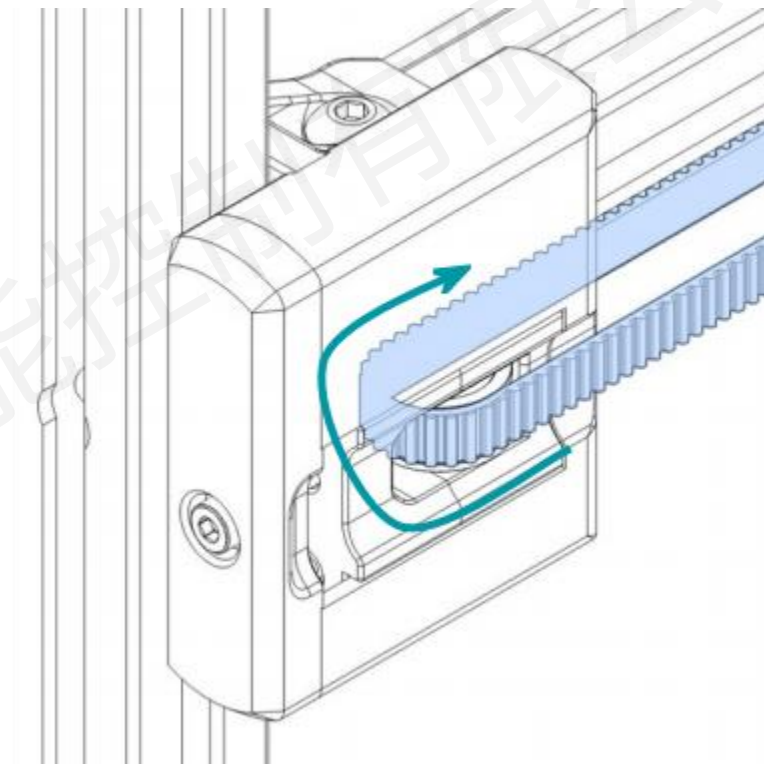
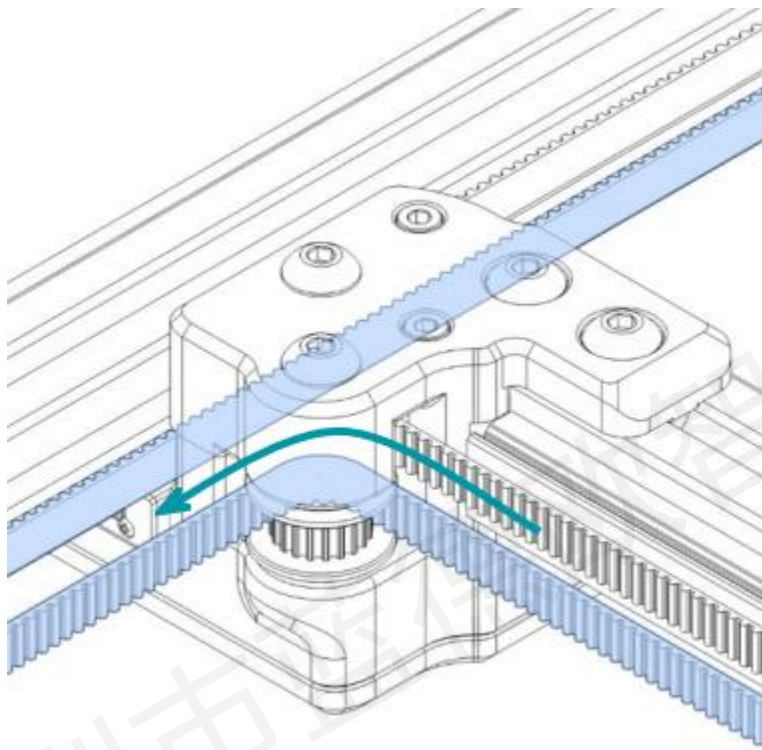
A皮带



A皮带



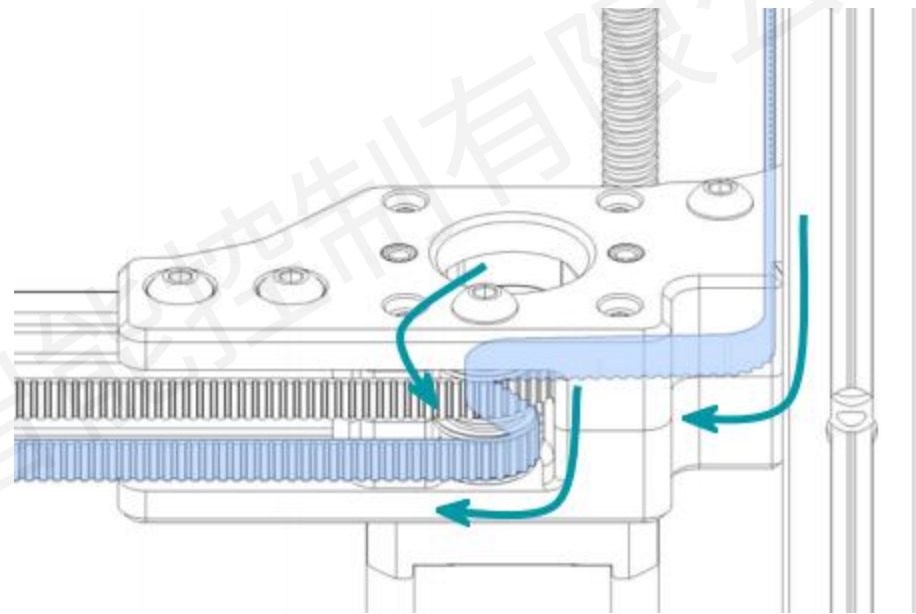
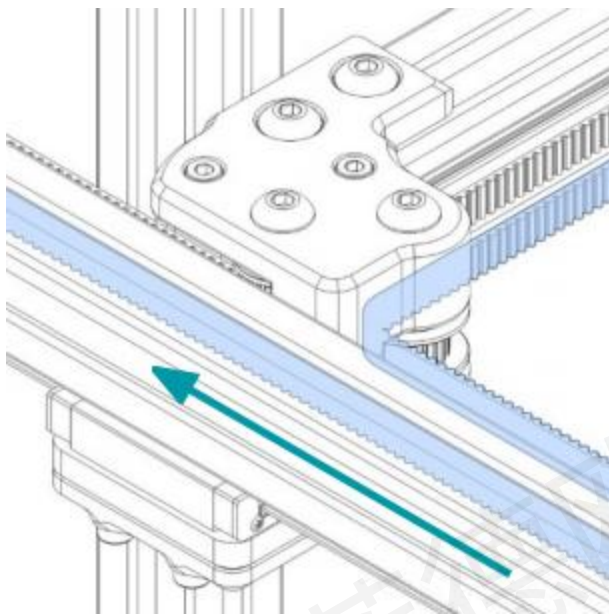
B 皮带



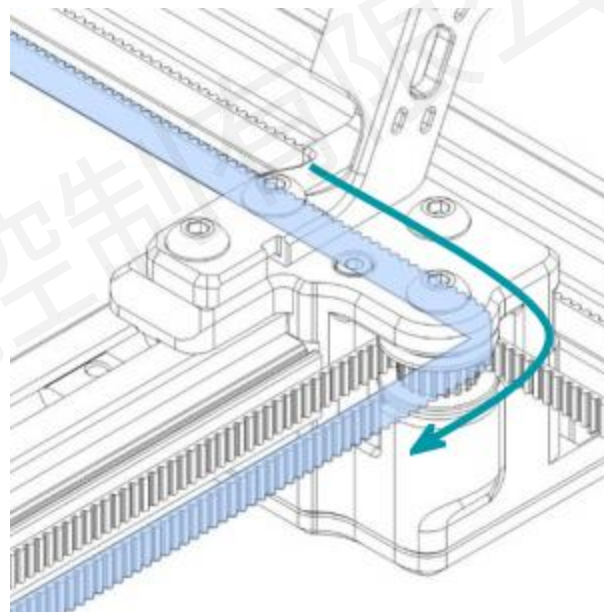
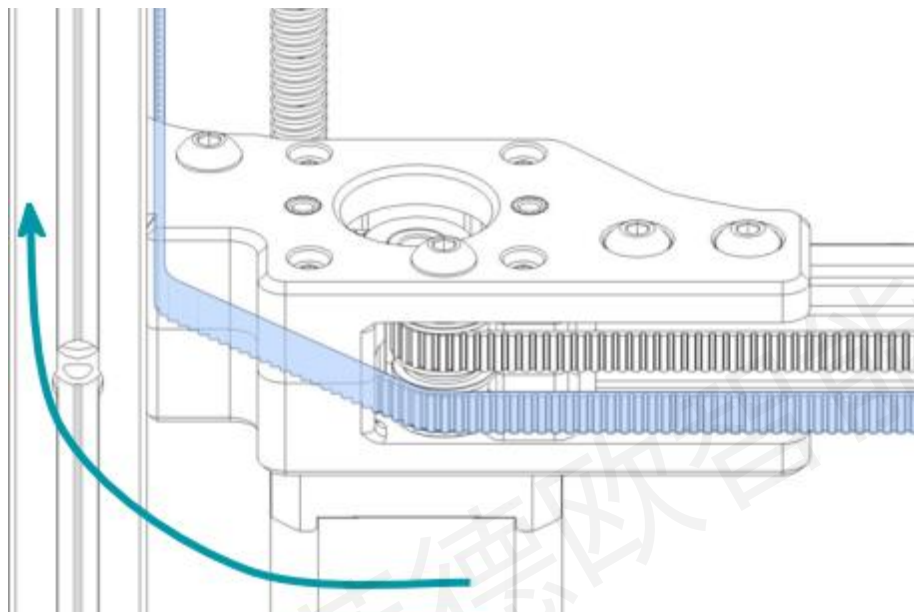
B皮带走线

沿着箭头指示的方向进行。此步骤可使用针鼻钳、镊子或类似工具辅助操作。

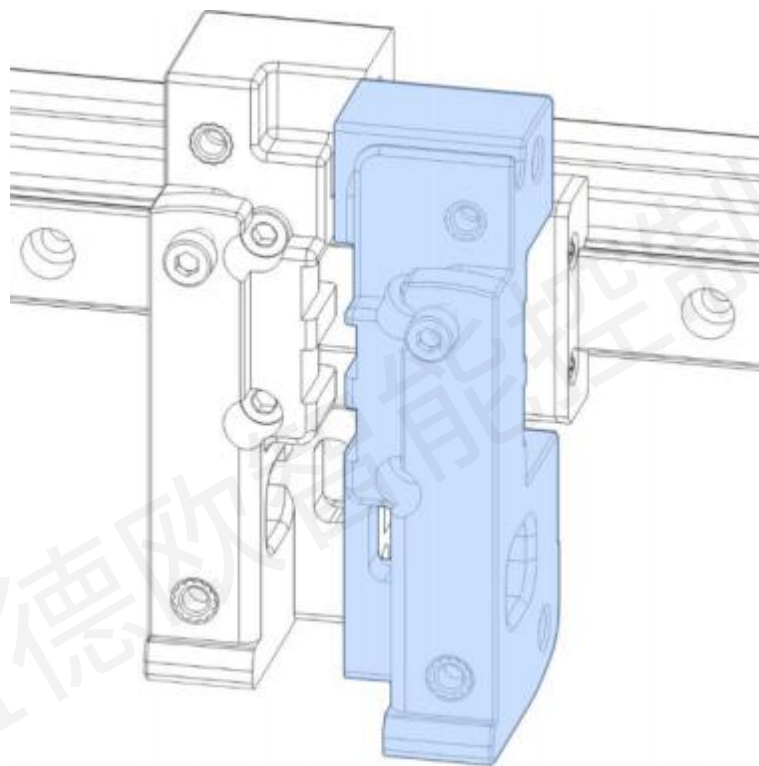
B 皮带



B 皮带



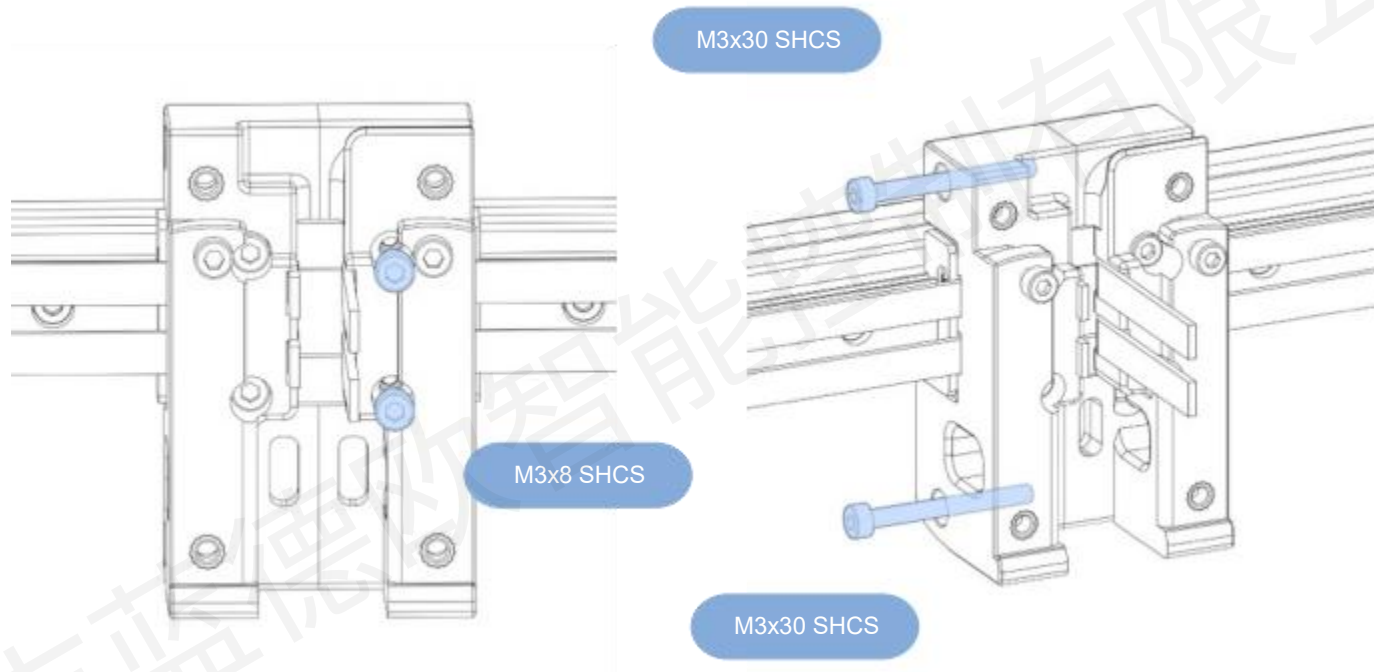
AB 皮带



X滑座

使用X型滑座的第二部分来固定皮带端部。

A/B 皮带



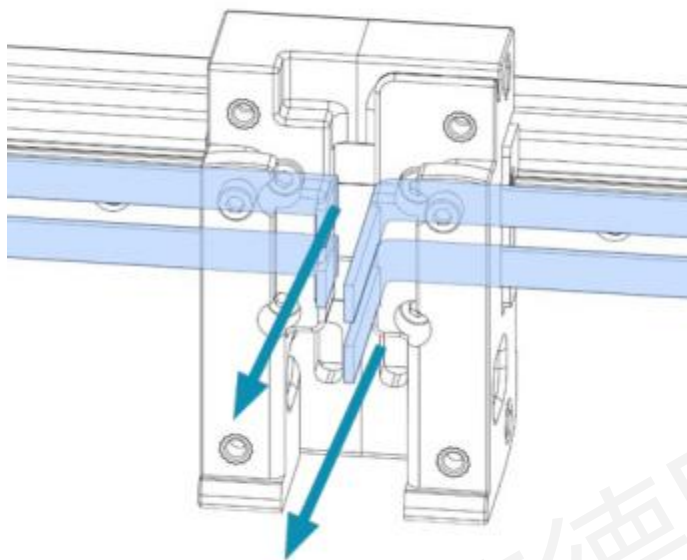
固定皮带

轻轻拧紧螺丝，但皮带仍需能够活动。

保持松动

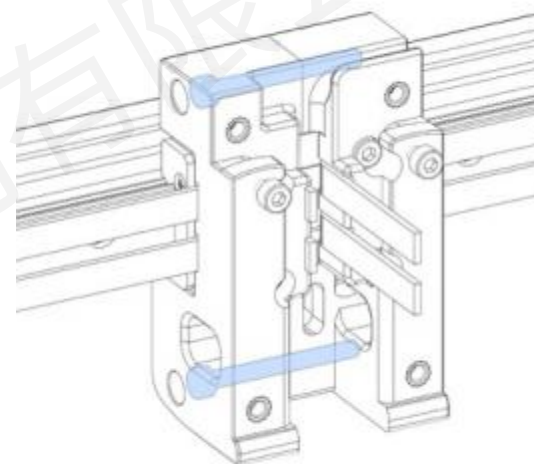
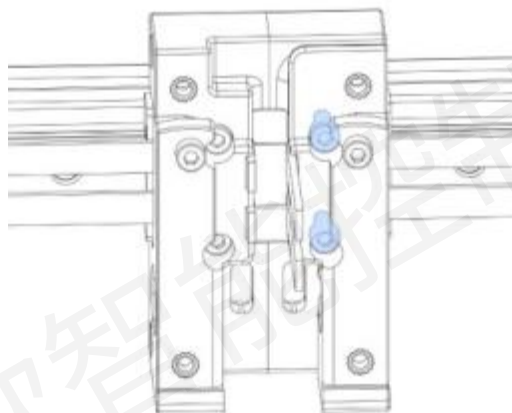
轻轻拧紧螺丝。

A/B 皮带



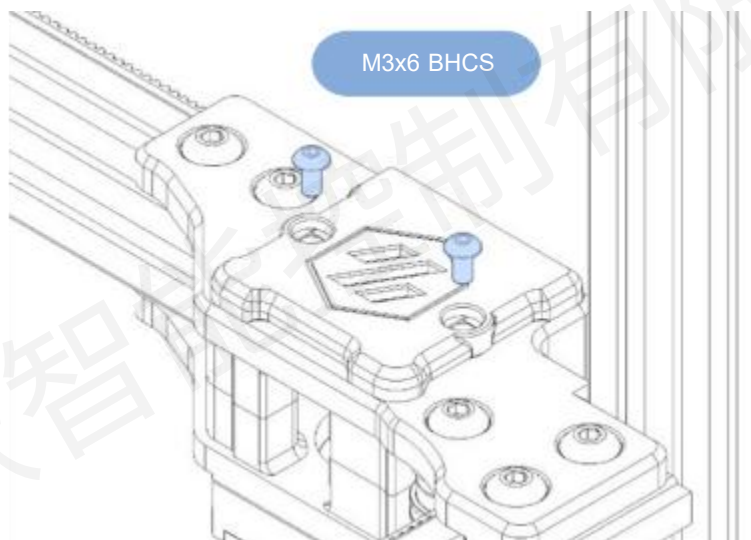
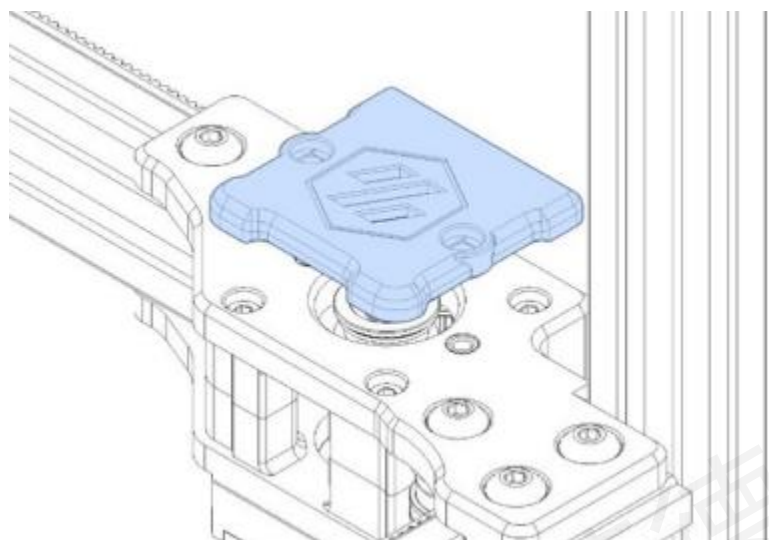
拉紧皮带：

用钳子夹住皮带两端并拉紧。由于两条皮带的总长度完全相同，且本设计中皮带路径长度相等，请确保从滑架两侧伸出的皮带长度一致。

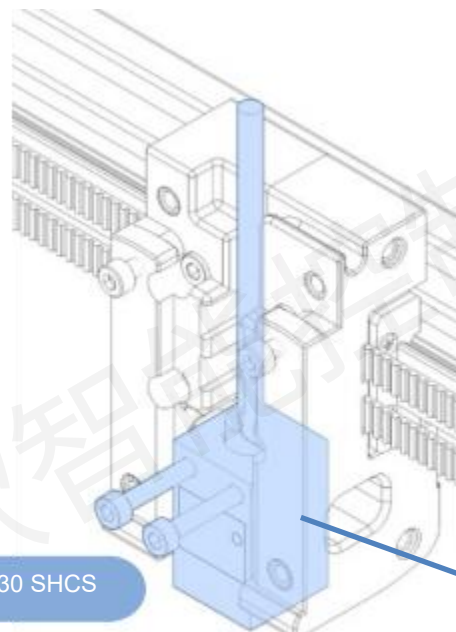
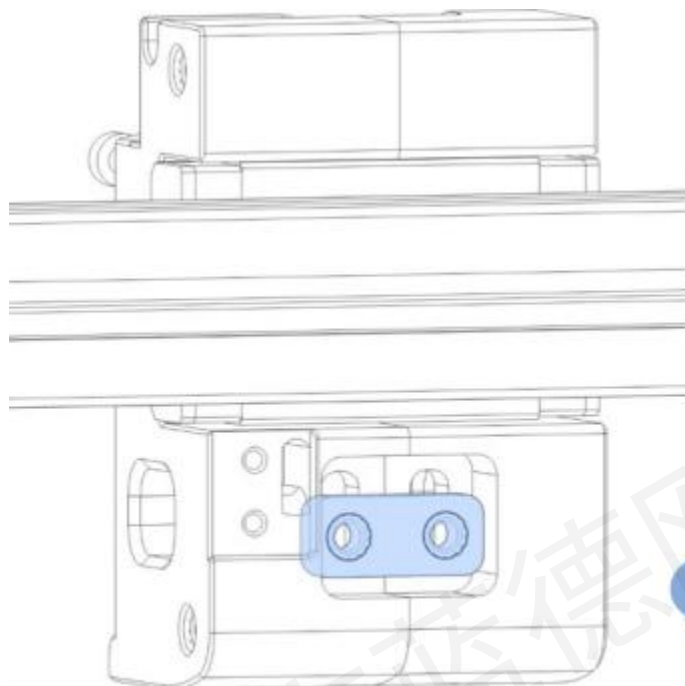


完全拧紧螺丝

A/B 皮带 - LOGO 盖



X滑座

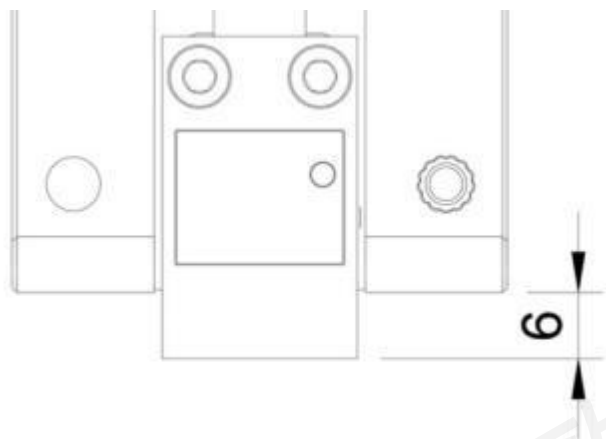


M3x30 SHCS

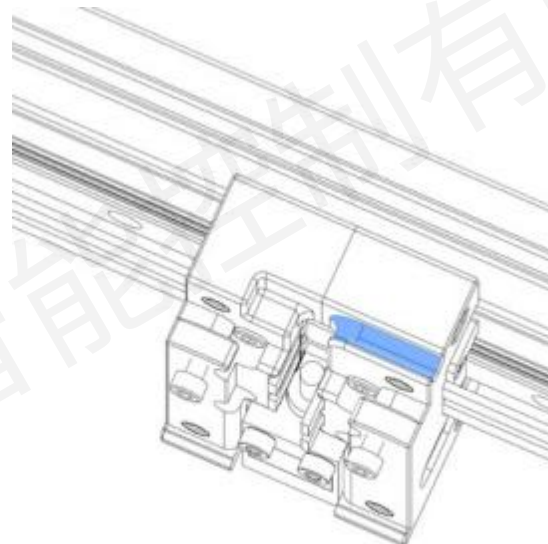
欧姆龙感应传感器

外部粘贴两层隔热

X滑座



调整探针位置，之后可进行微调。初始位置应设置在塑料件下方约6毫米处。

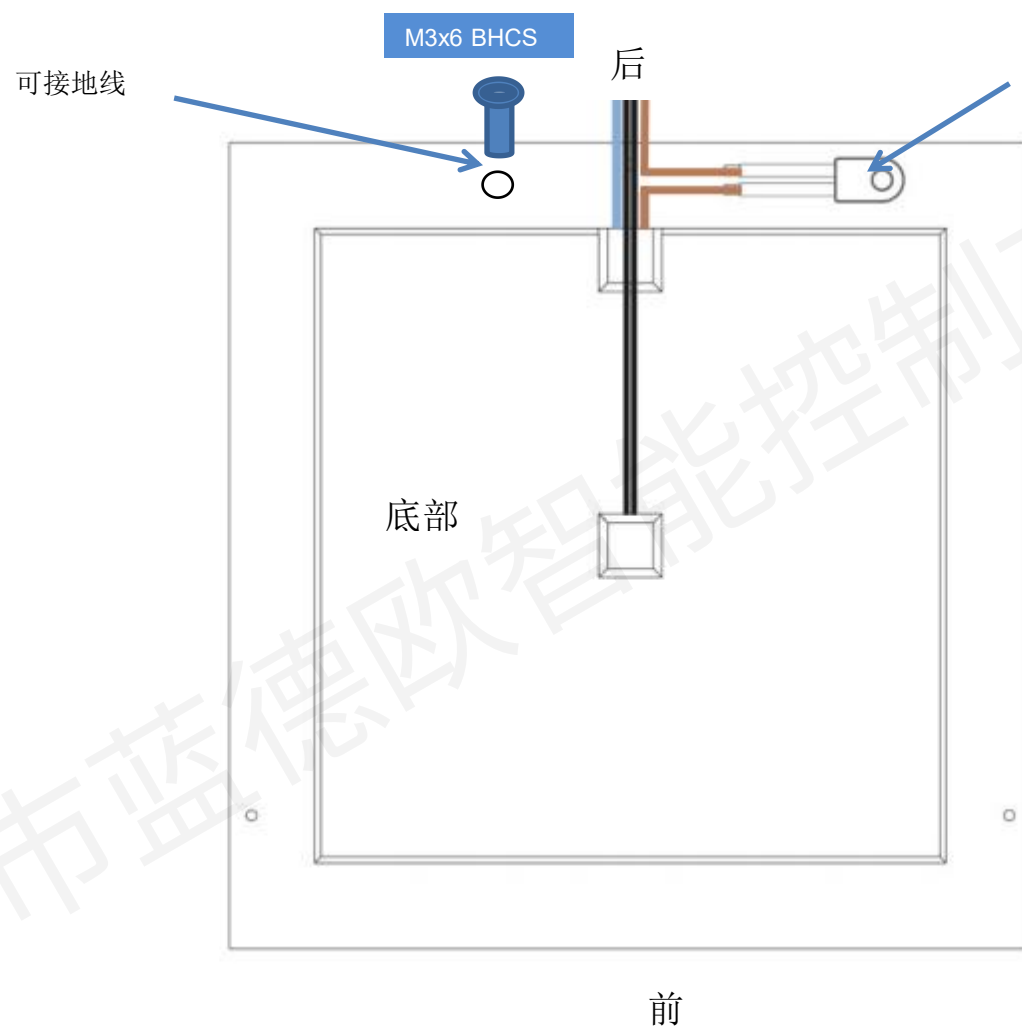


探头电缆通道 将探头电缆插入标有箭头的槽中。

热床



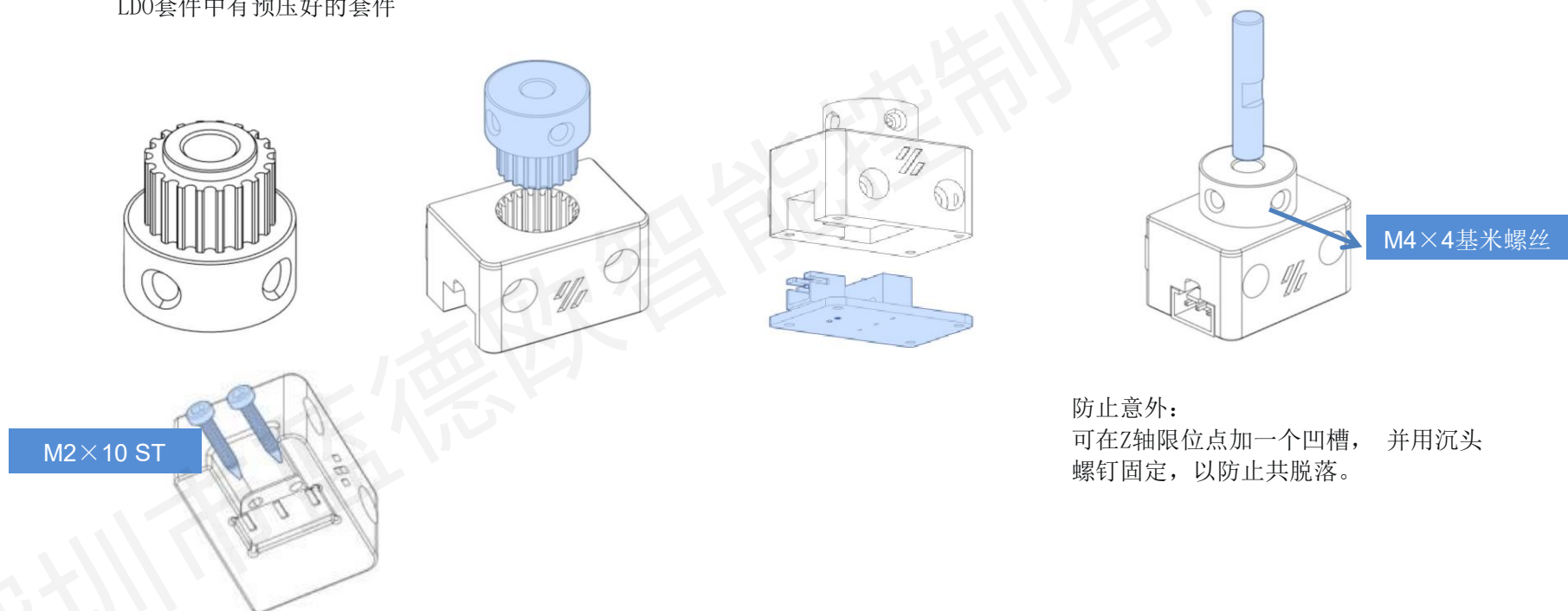
热床



热熔断器 虽然热熔断器并非打印机运行所必需，但安装在打印板上的热熔断器可为防止潜在危险的故障提供额外保护。该热熔断器与加热丝并联连接。根据打印板上钻孔的尺寸，您可能需要使用较短的螺丝。

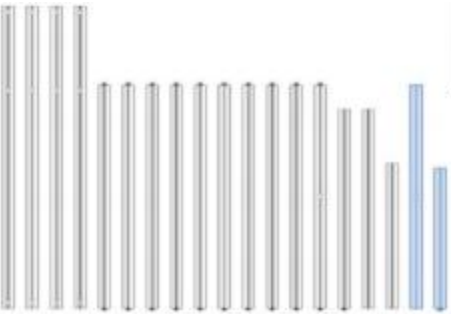
Z 限位

压入：施加所需力，使滑轮完全嵌入印刷部件中。
LD0套件中有预压好的套件



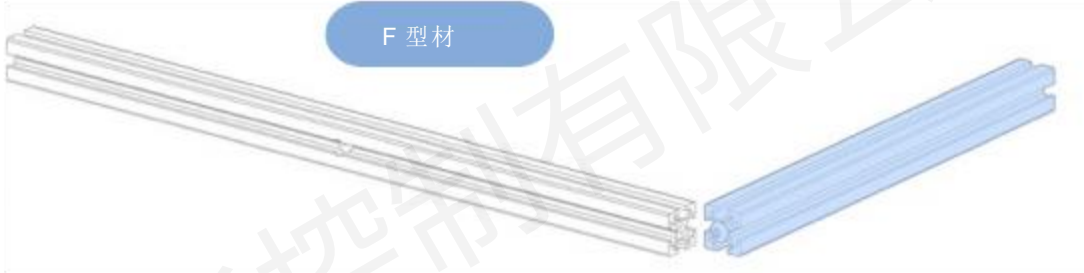
防止意外：
可在Z轴限位点加一个凹槽，并用沉头螺钉固定，以防止其脱落。

热床框架



G型材

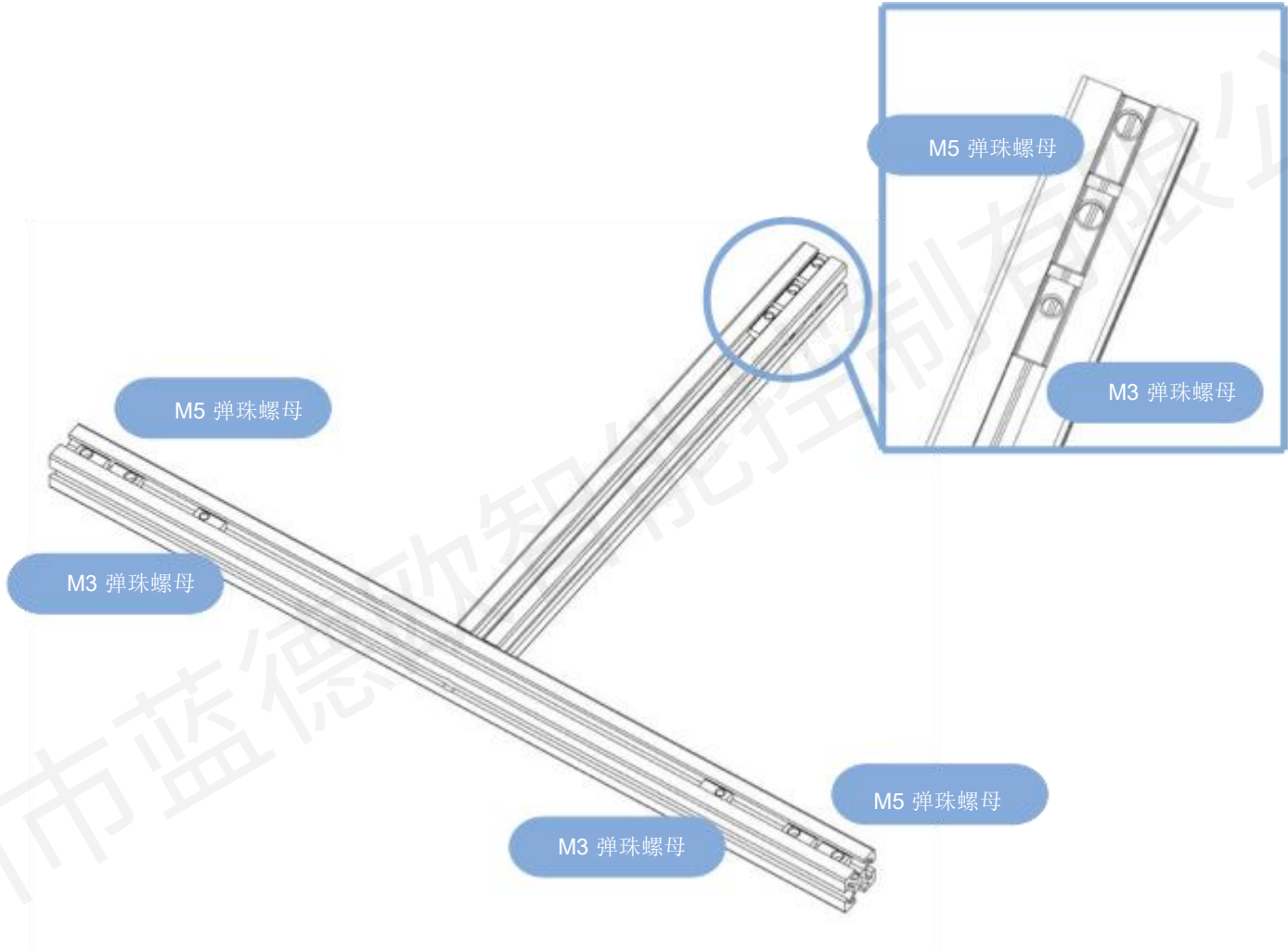
M5x16 BHCS



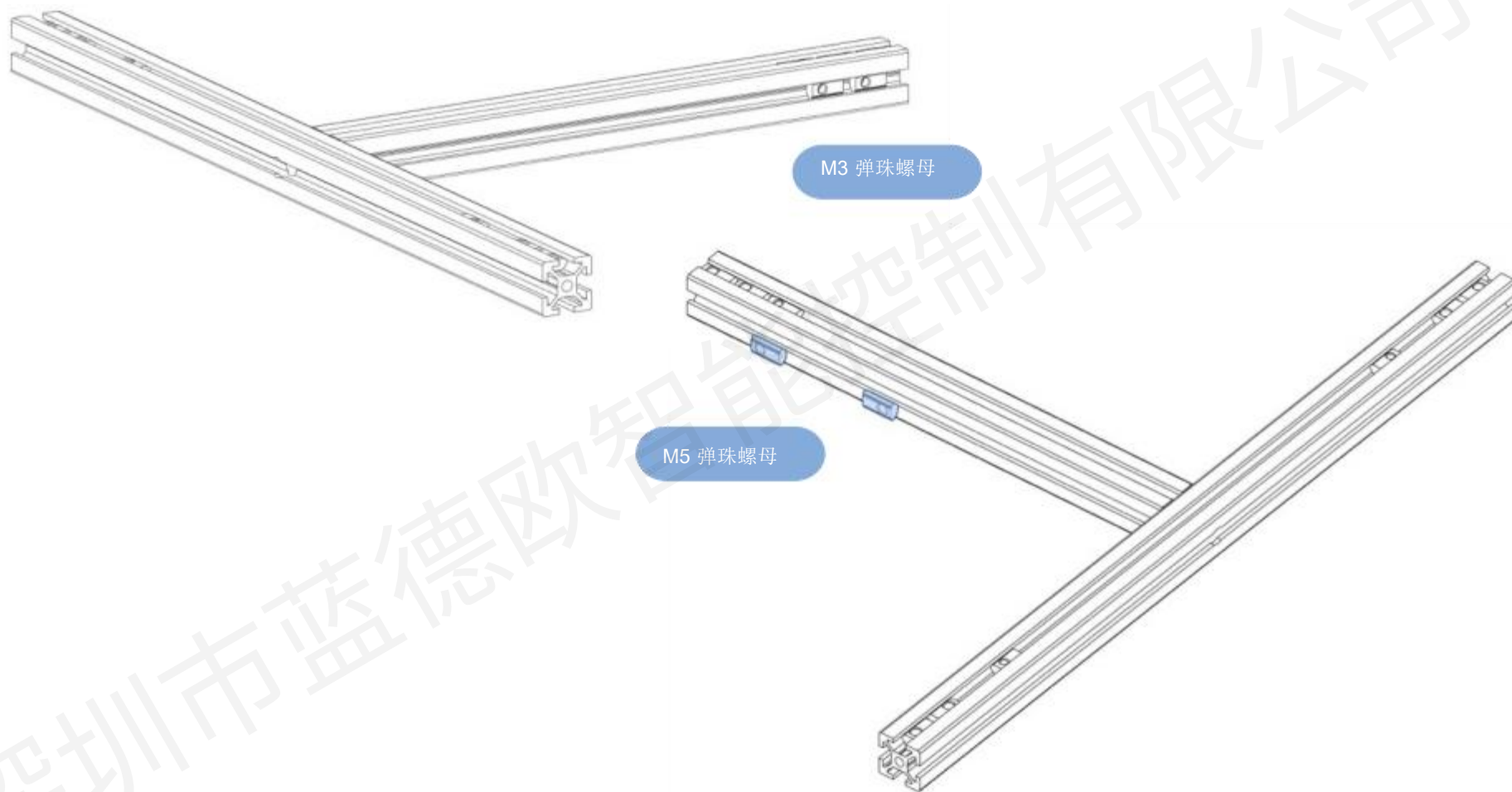
F 型材



热床框架



热床框架

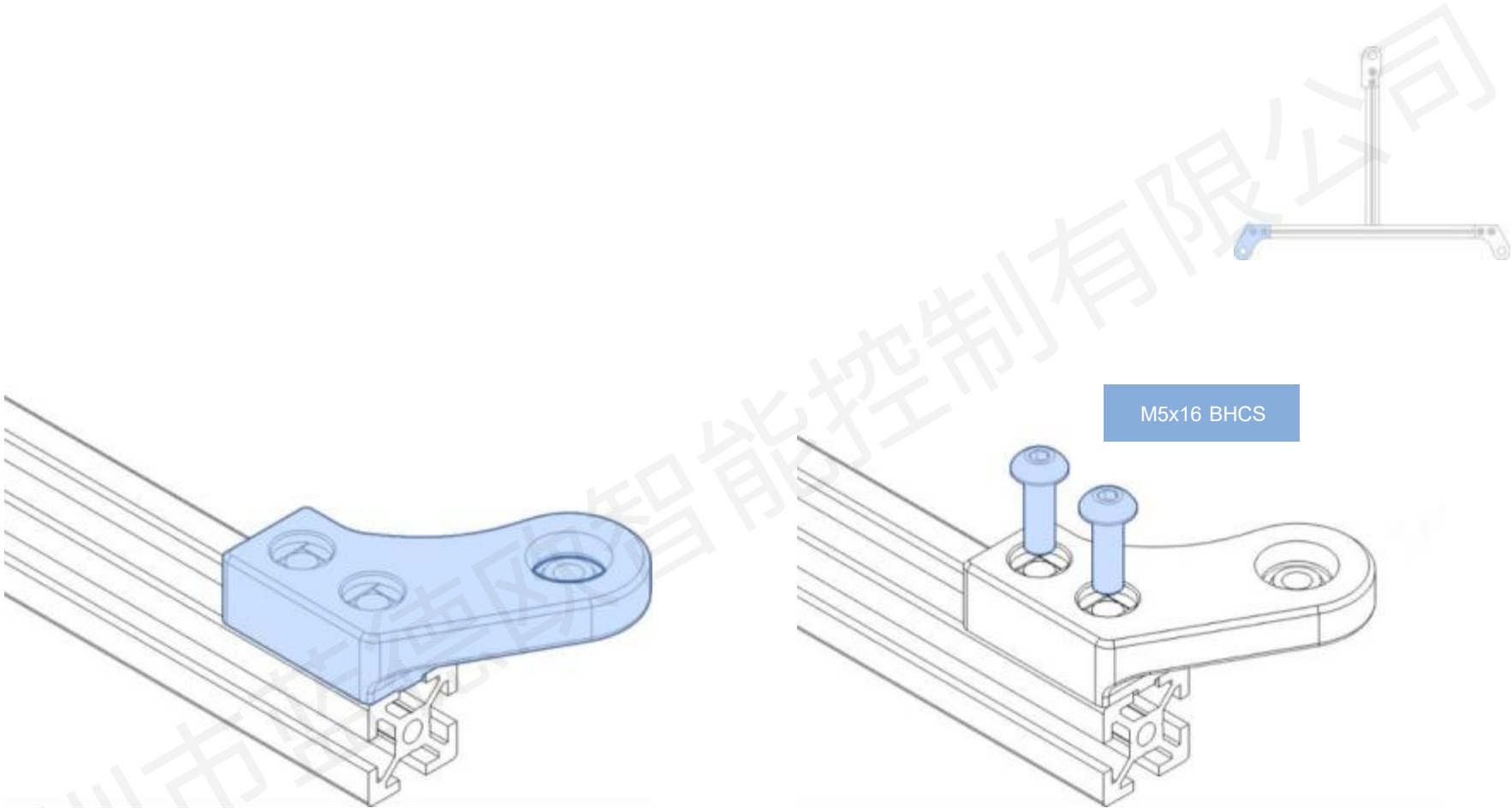


热床框架



不要过度拧紧
螺丝用于固定轴承，直接螺纹嵌入塑料中。

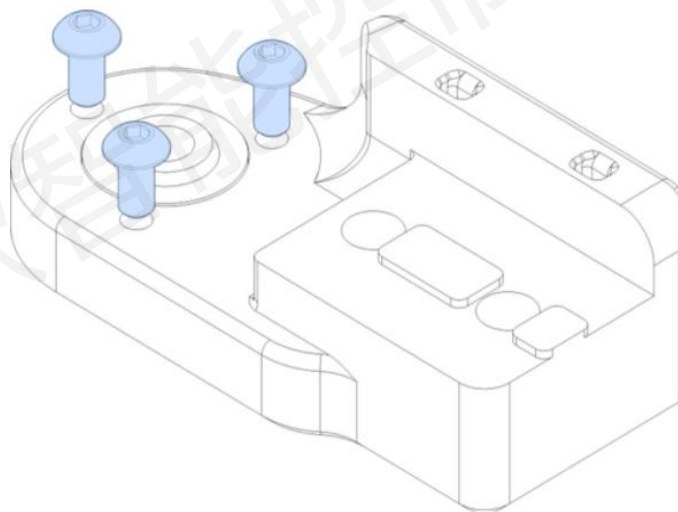
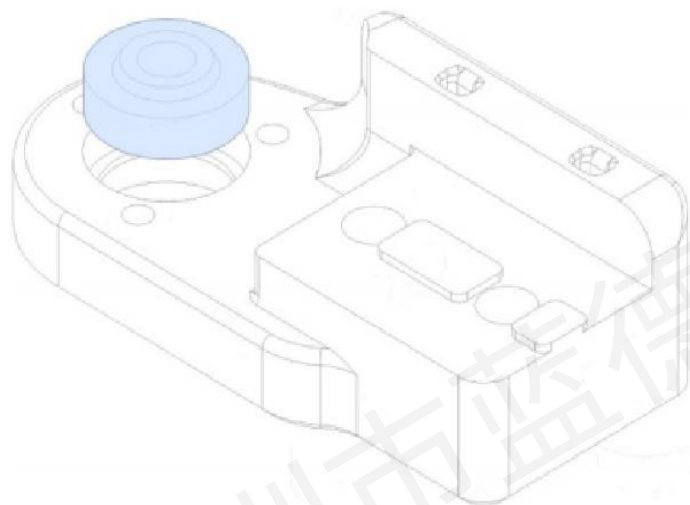
热床框架



热床框架

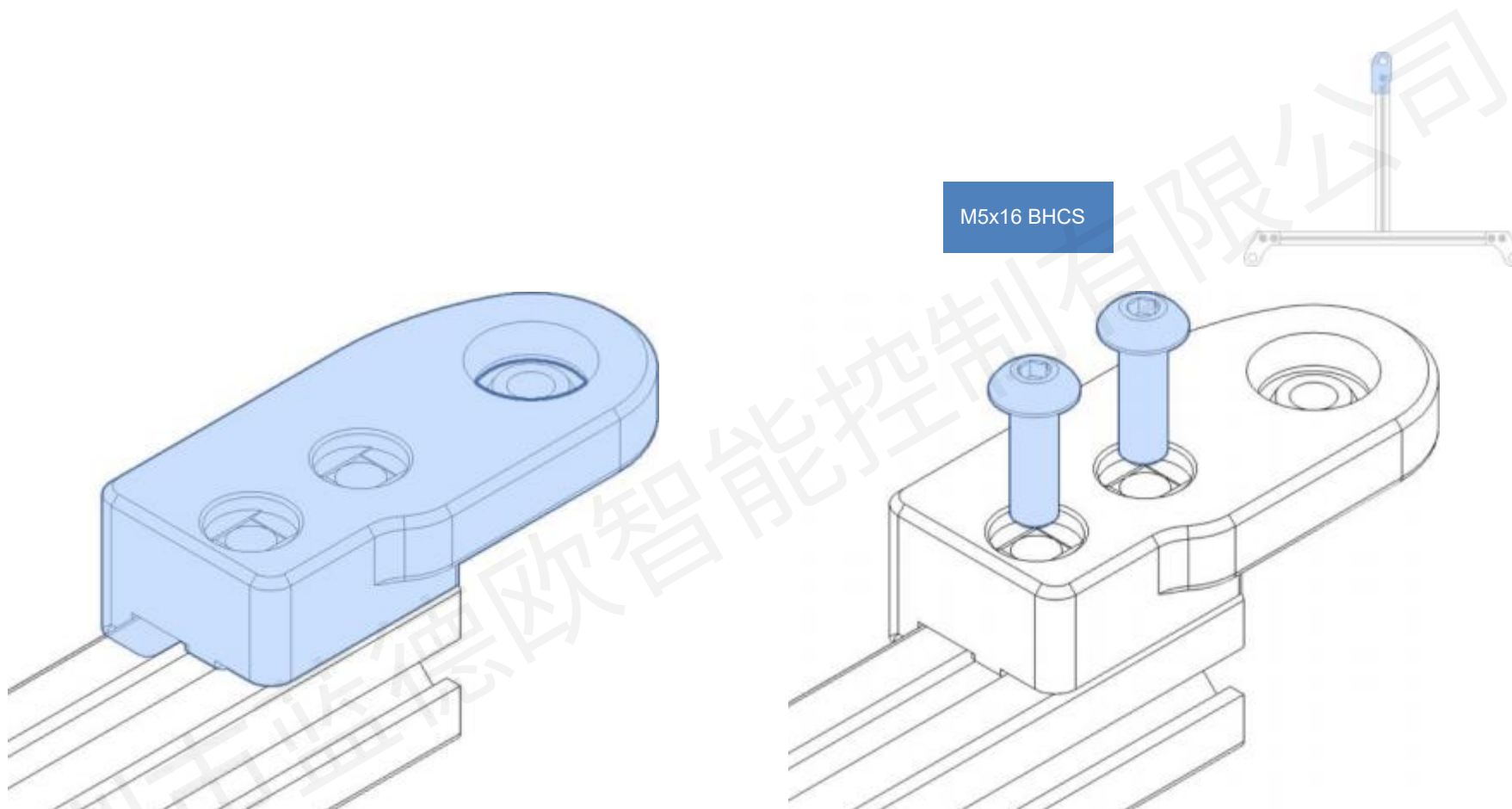
GE5C轴承

M3x6 BHCS

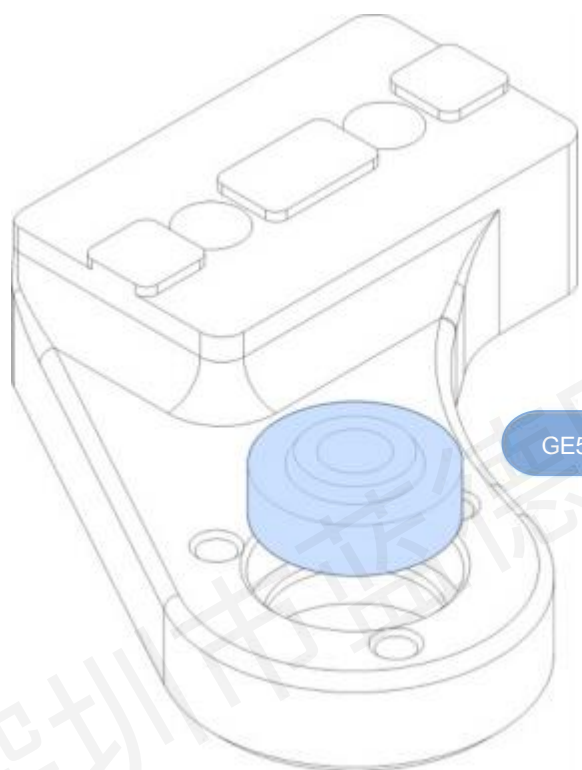


不要过紧：
螺丝用于固定轴承，直接螺纹嵌入塑料中。

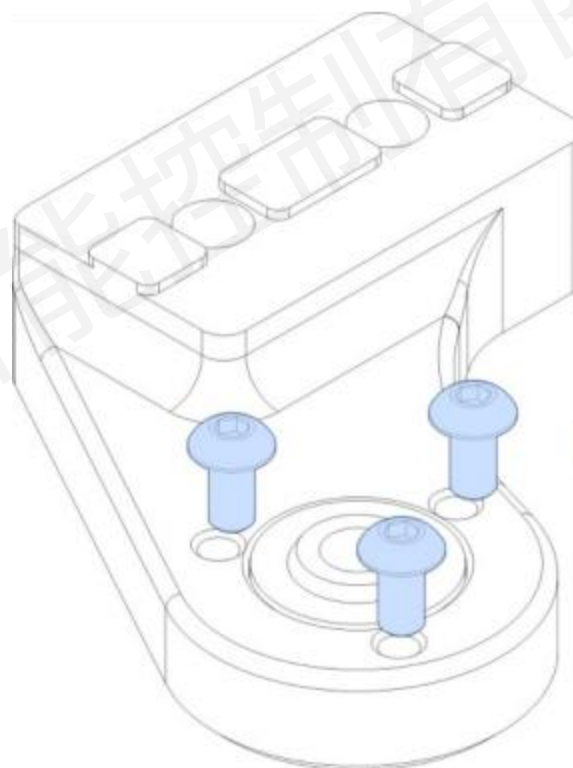
热床框架



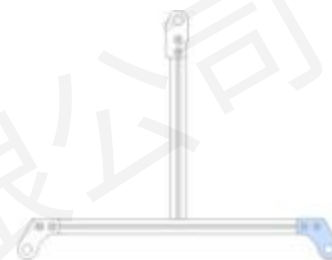
热床框架



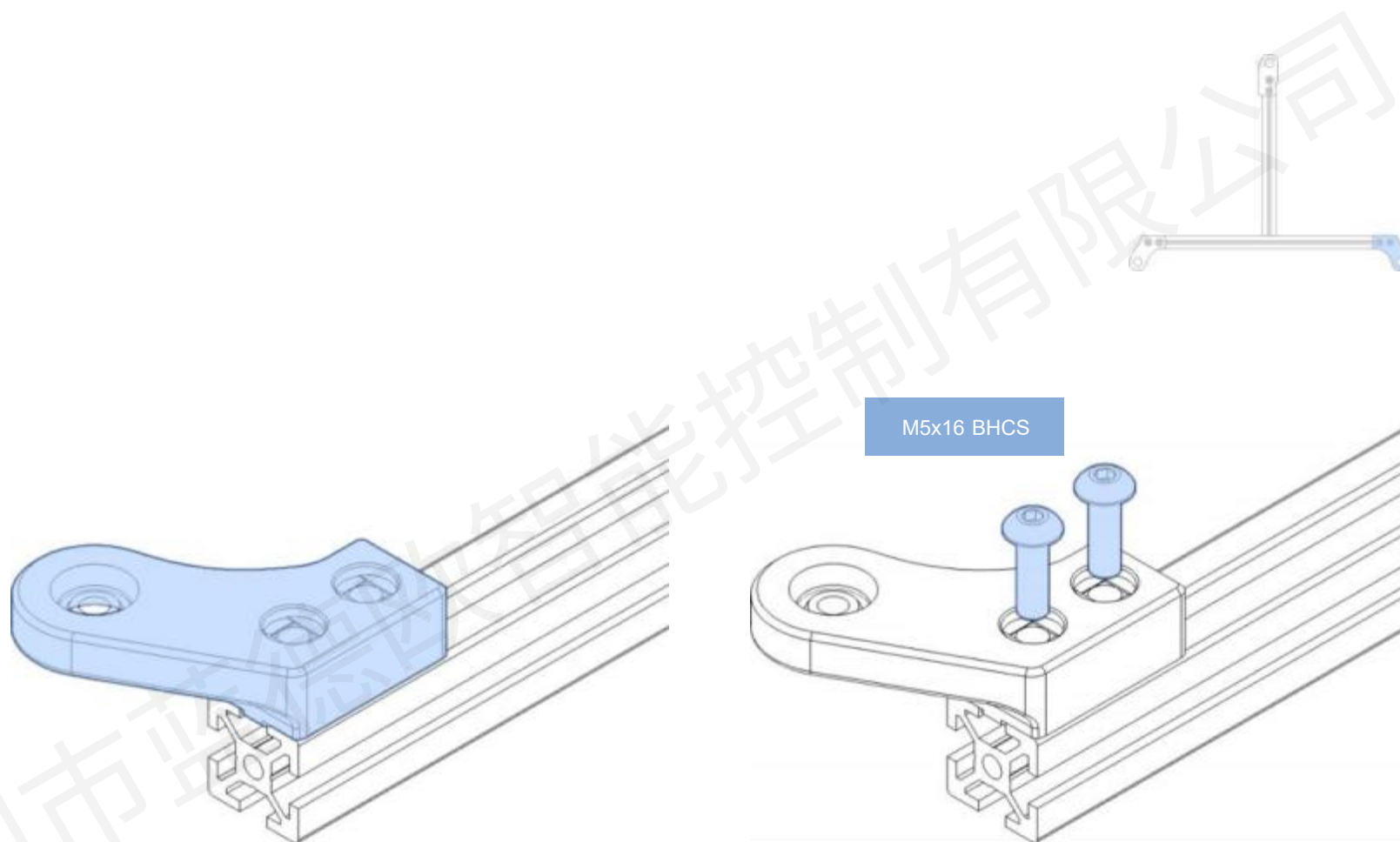
GE5C 轴承



M3x6 BHCS

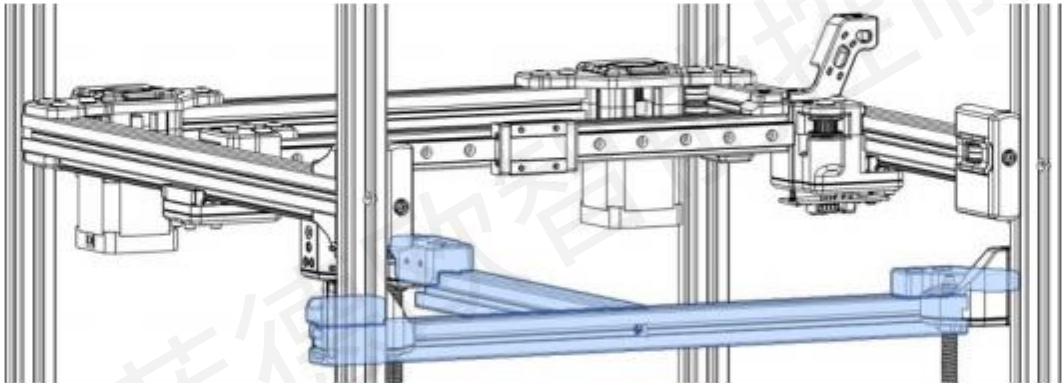
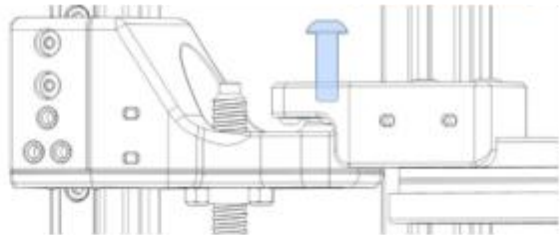


热床框架

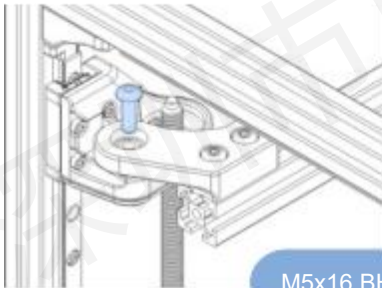


热床框架

M5x16 BHCS



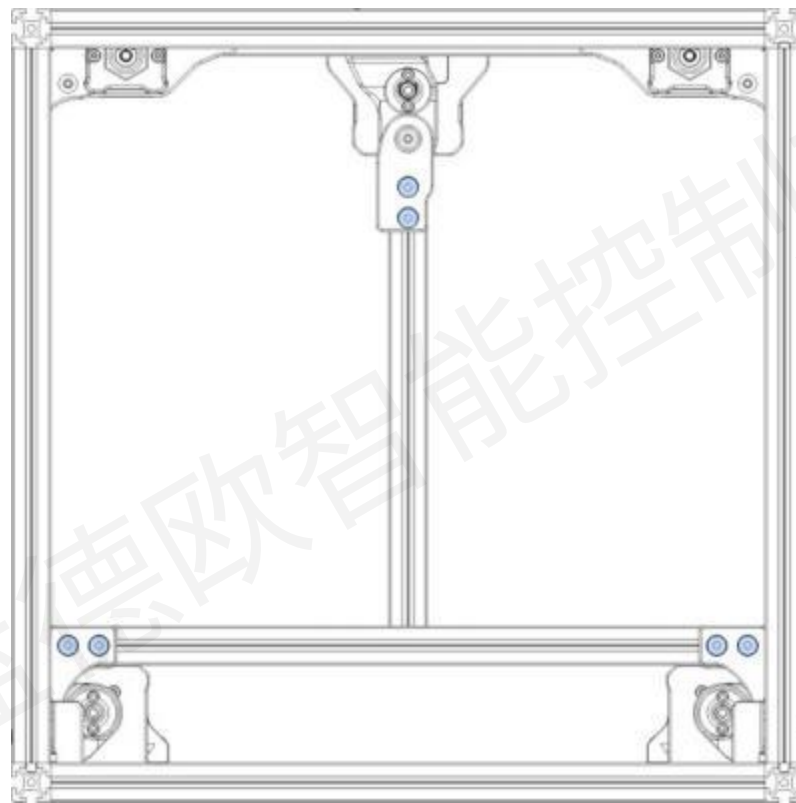
M5x16 BHCS



M5x16 BHCS

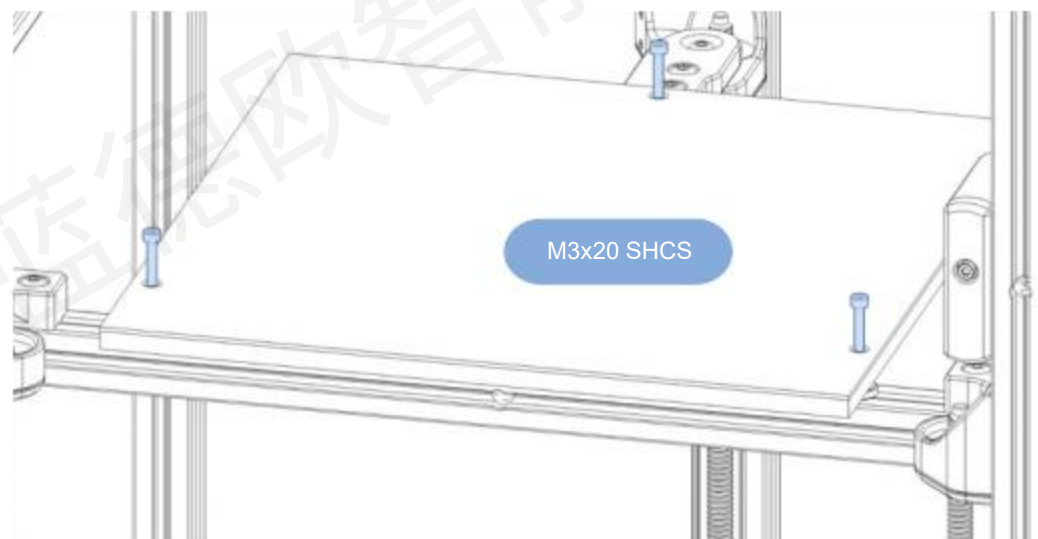
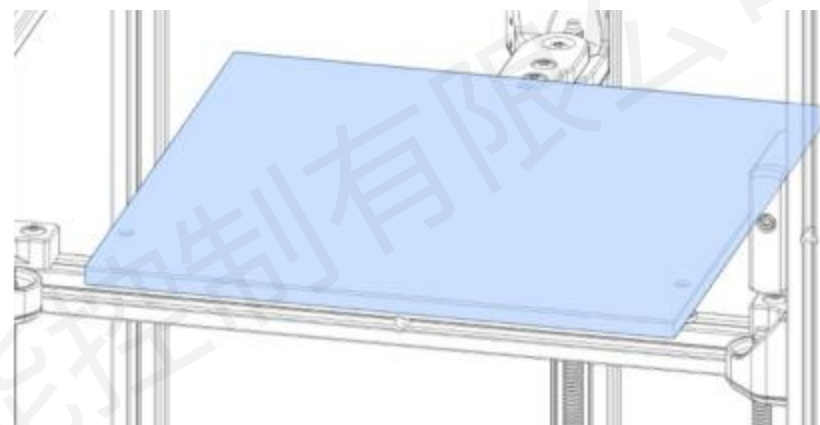


热床框架



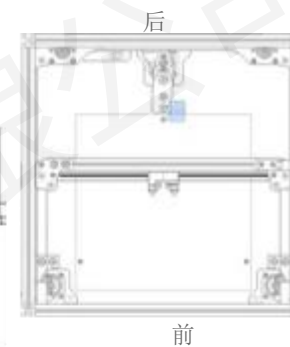
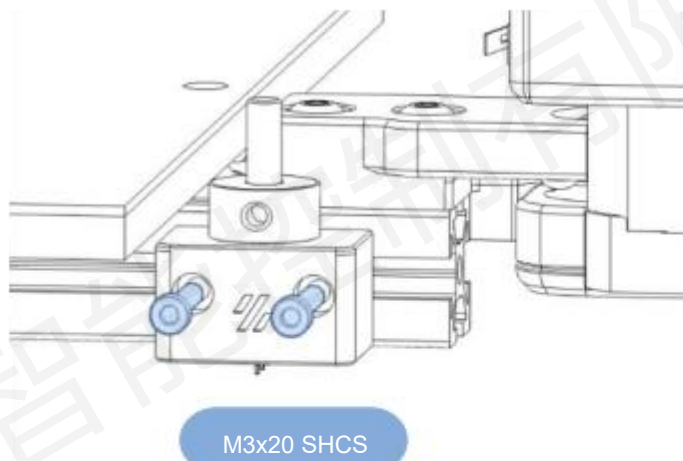
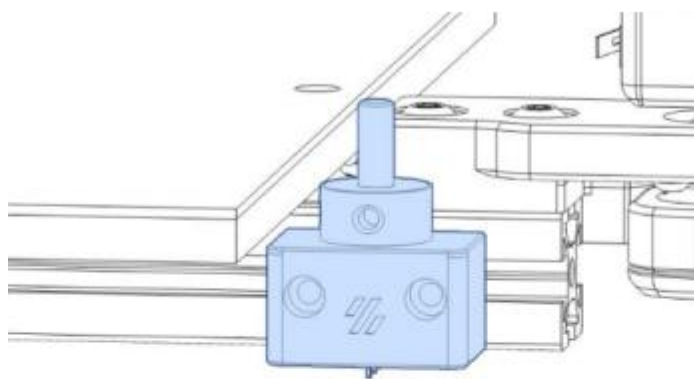
稍微松开固定床架与打印部件的螺丝，然后轻轻摇晃床架，再重新拧紧。

热床框架

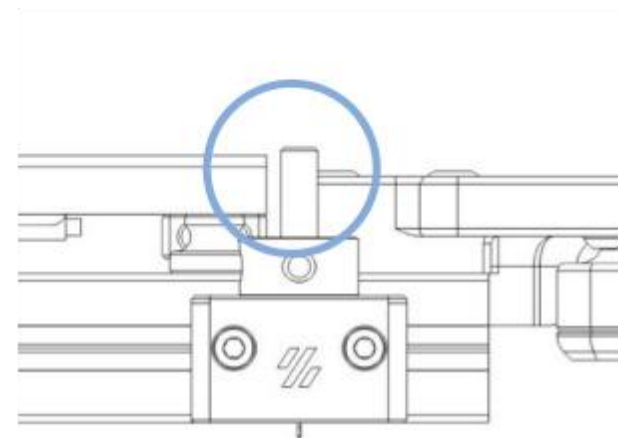


不要完全拧紧，只需将其中一个螺丝完全拧紧，其余螺丝稍微松开。这样可以允许热膨胀，而不会给板子增加额外应力。

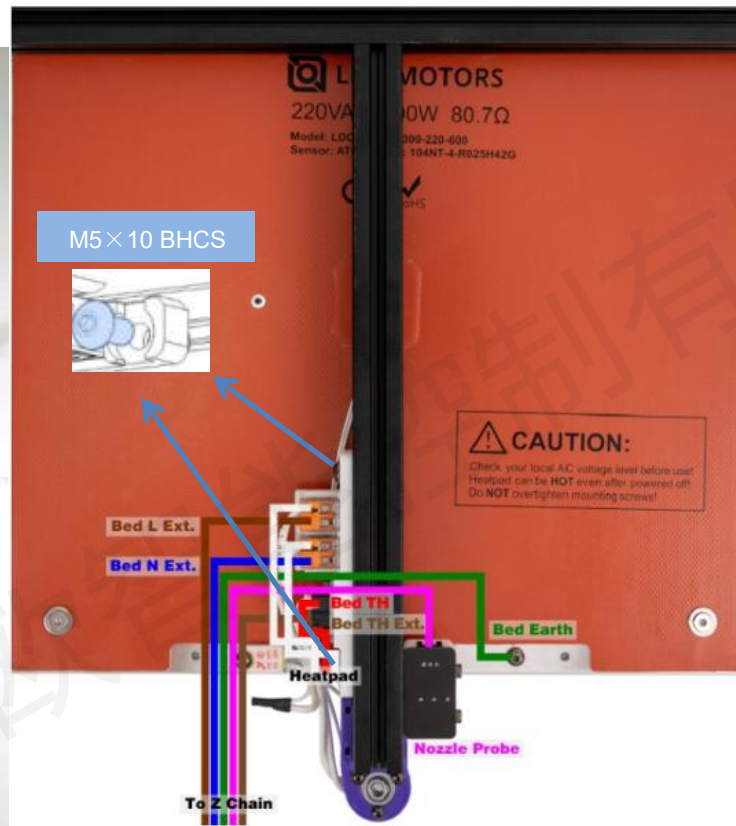
热床框架



调整Z轴限位开关位置：Z轴限位开关的轴不得接触打印床。如有需要，请调整其位置。



热床框架

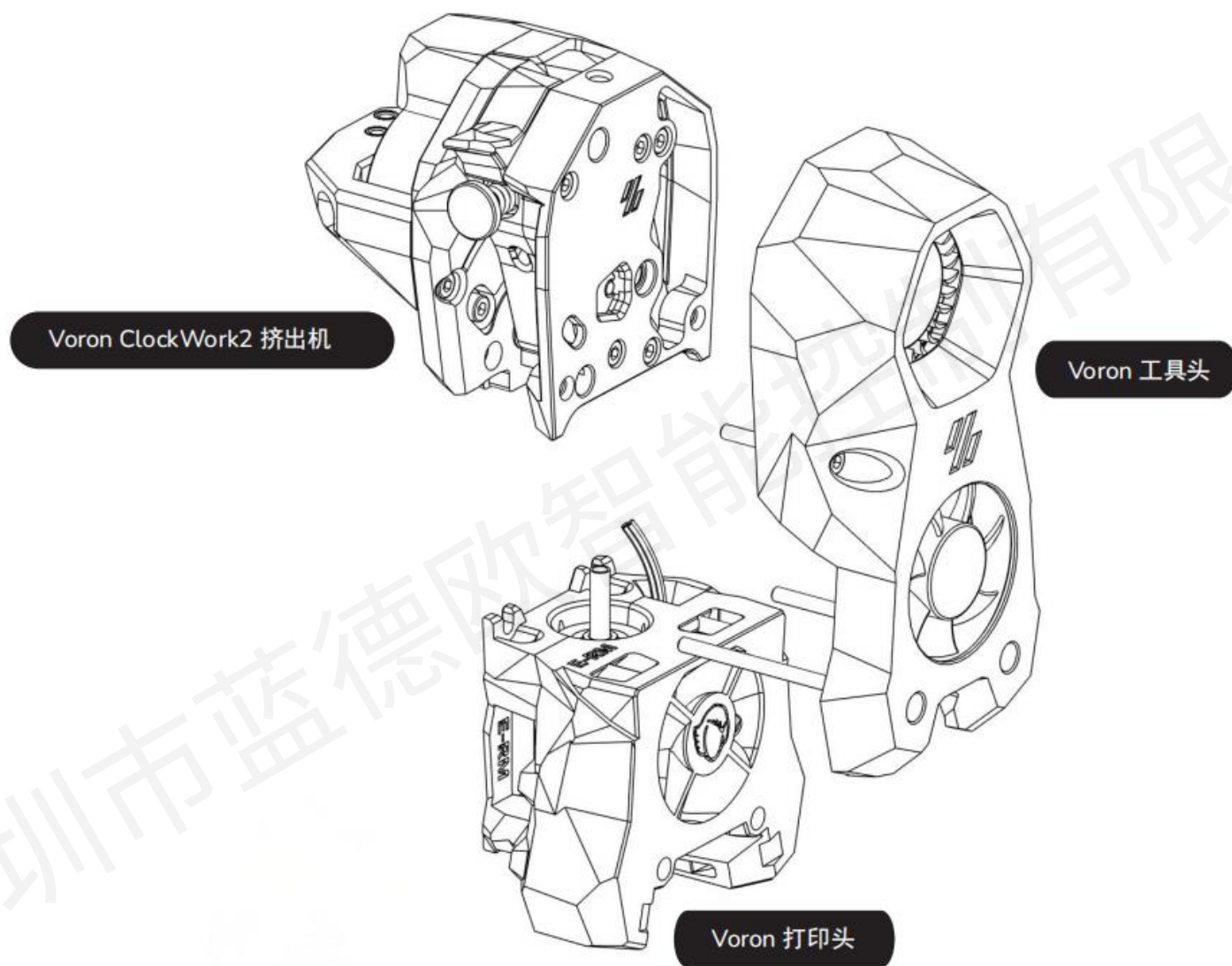


打印件 LDO 套件有提供. 接入 wago 及热床温度传感器线转接板

工具头



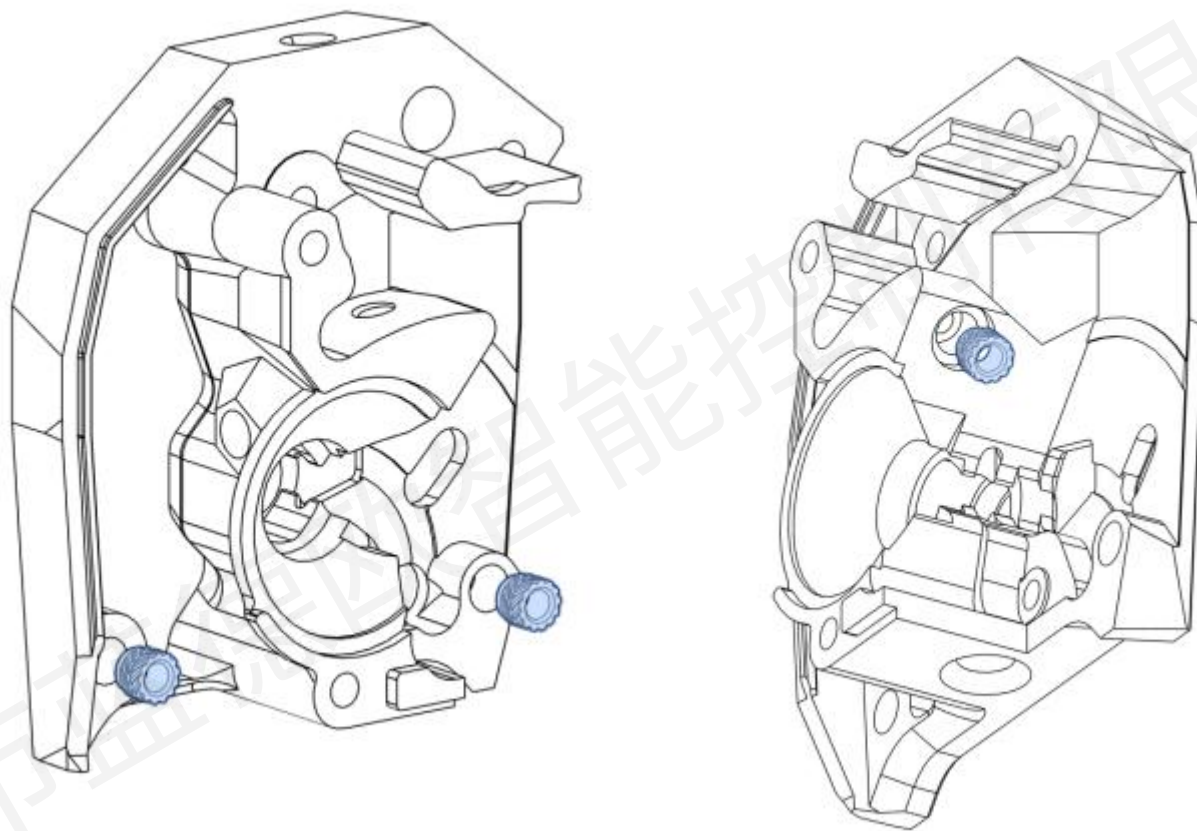
概述



挤出头

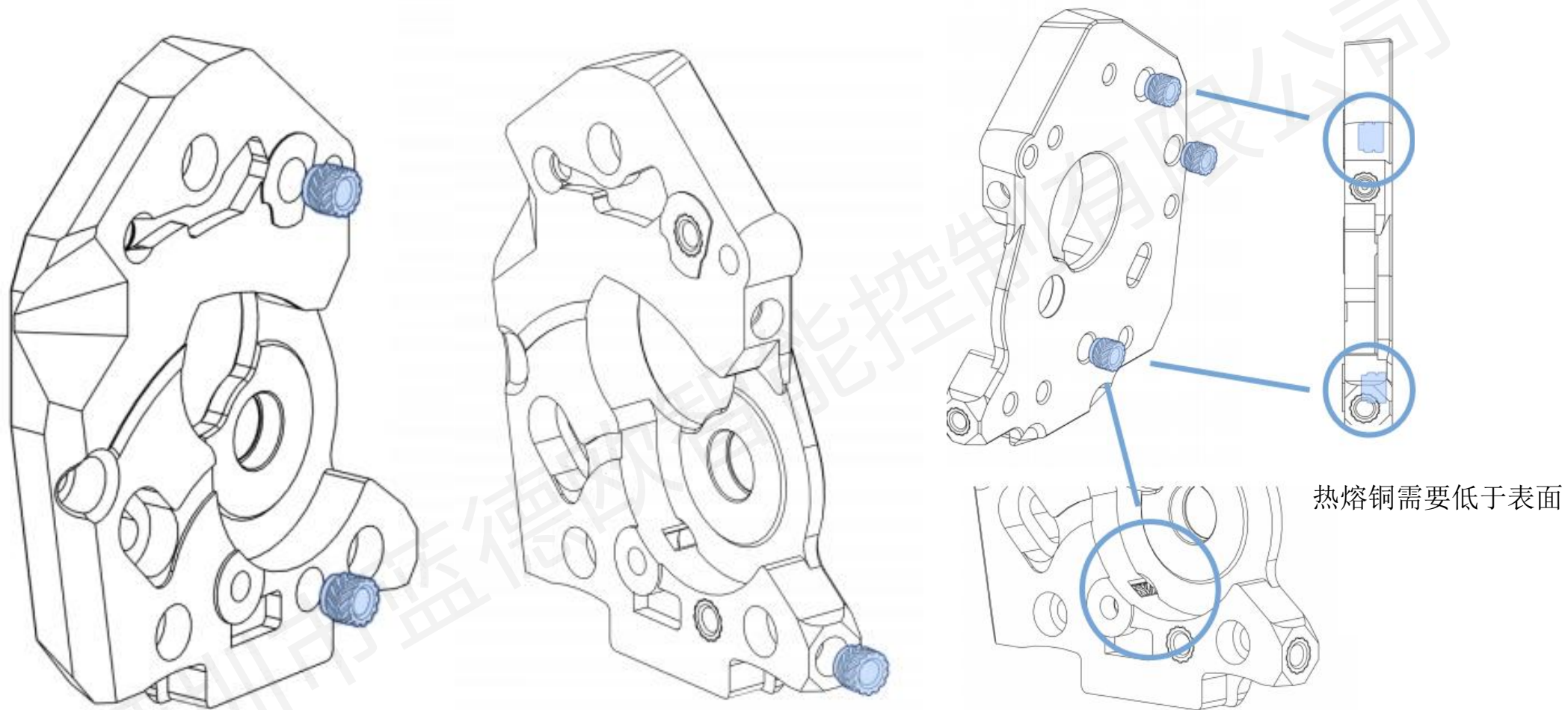


准备工作

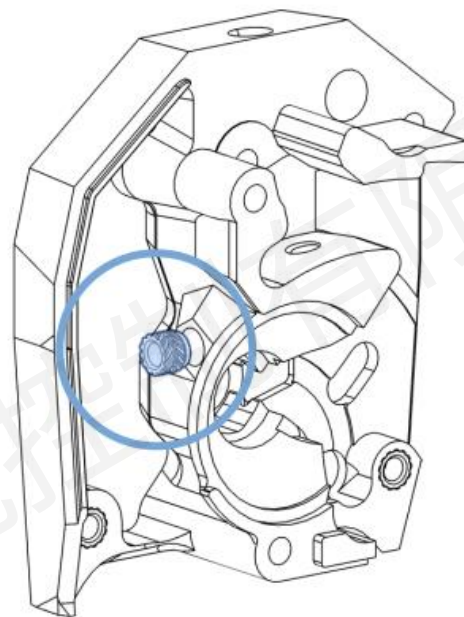
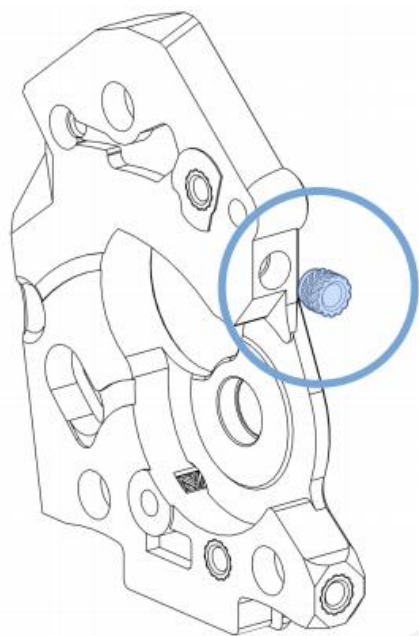


M3×4×5 黄铜螺母

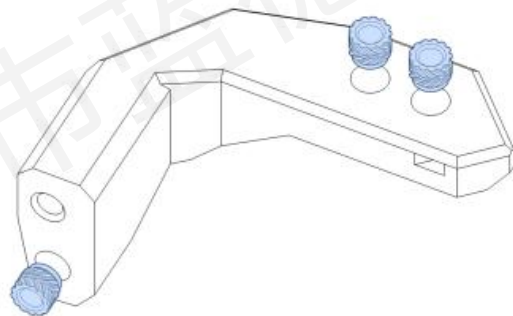
准备工作



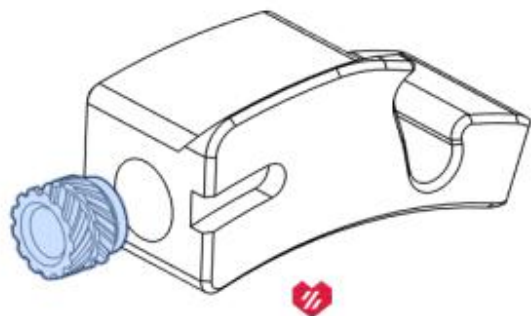
准备工作



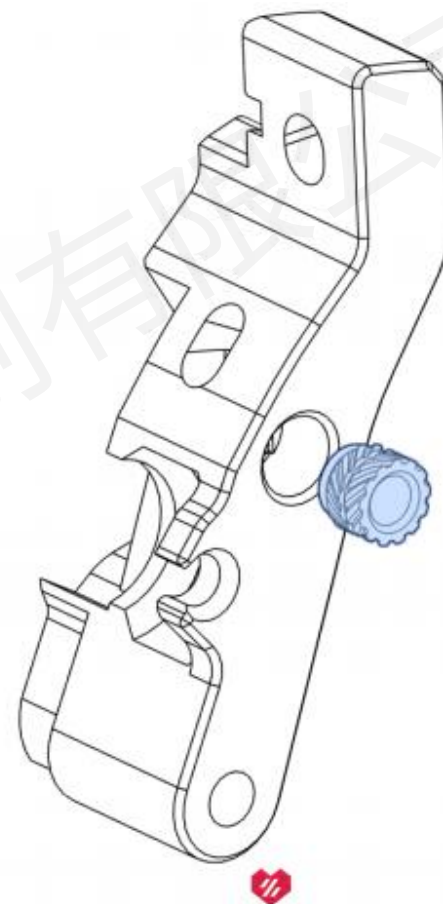
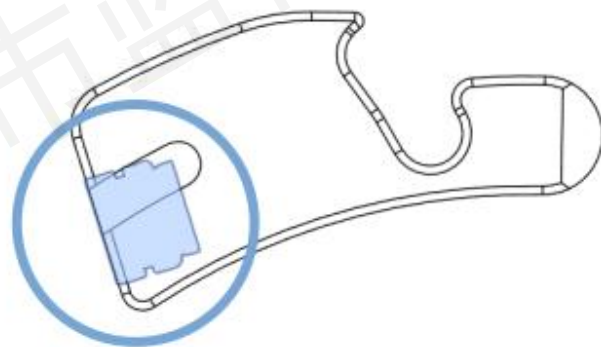
M3×4×5 黄铜螺母



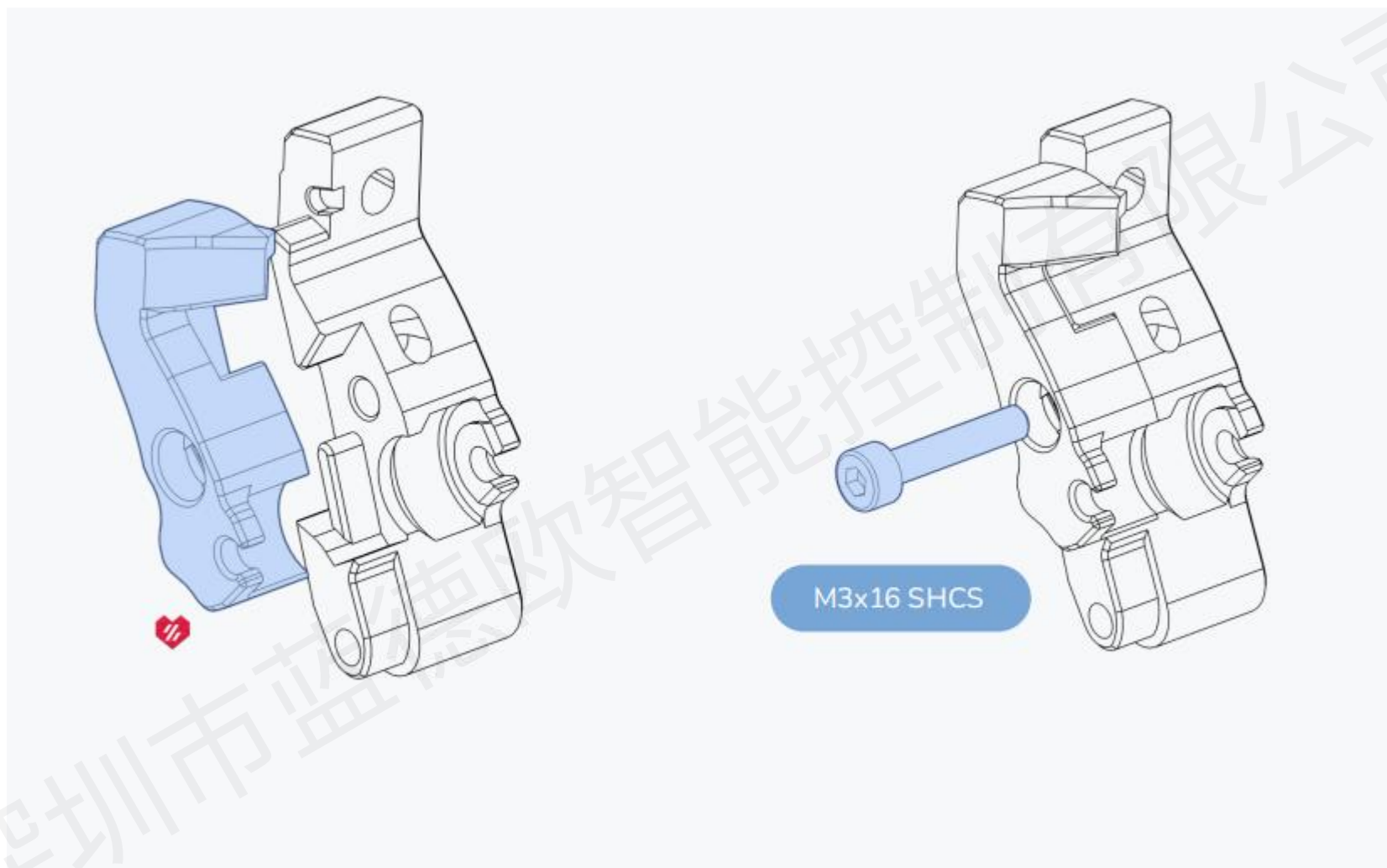
准备工作



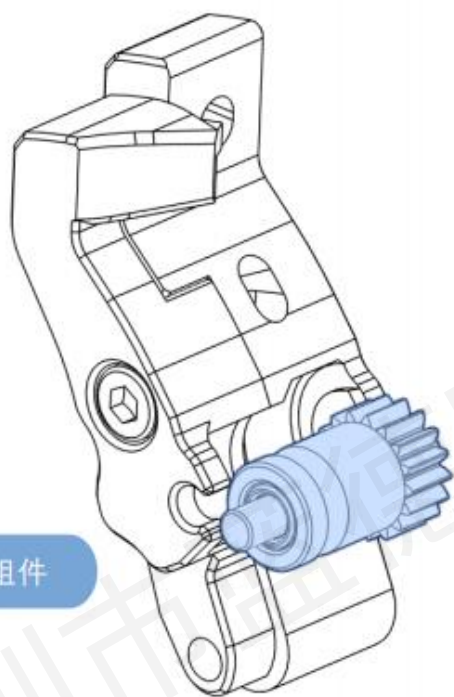
热熔铜需要与表面齐平或低于表面



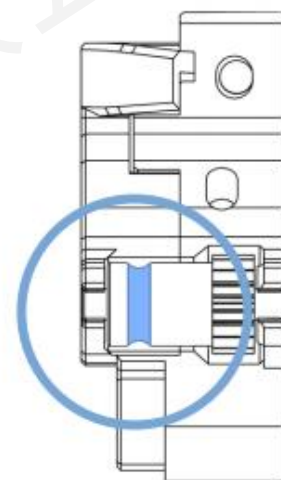
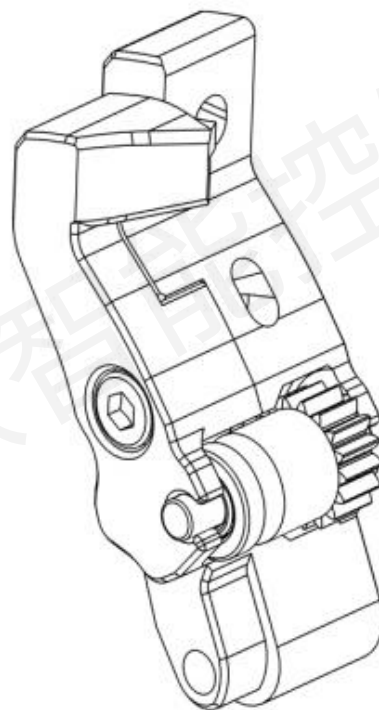
导轮压臂



导轮压臂



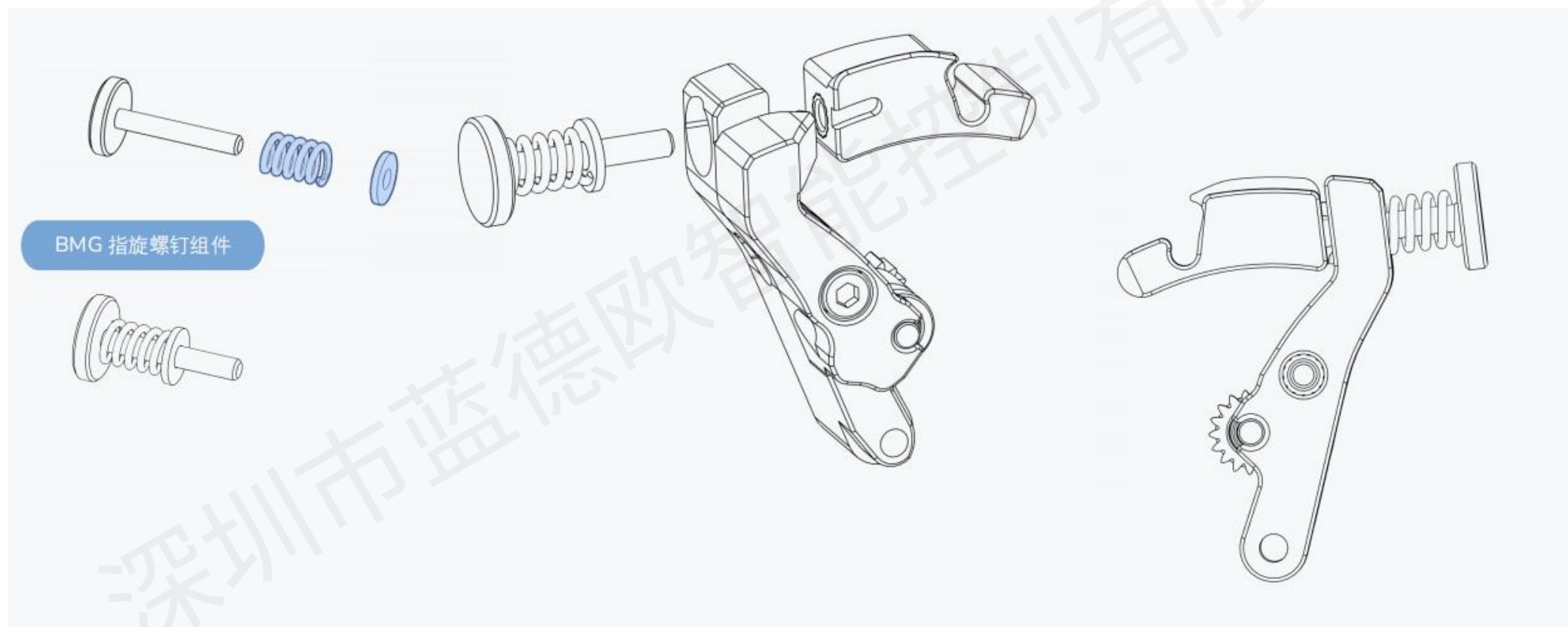
BMG 惰轮组件



注意方向
确保惰轮组件的方向如上所示。

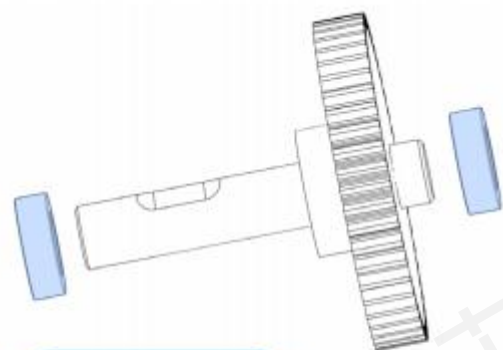
导轮压臂

关于弹簧的说明：更长/更短/更硬的弹簧会改变张力特性,并影响张力机构的工作效果。

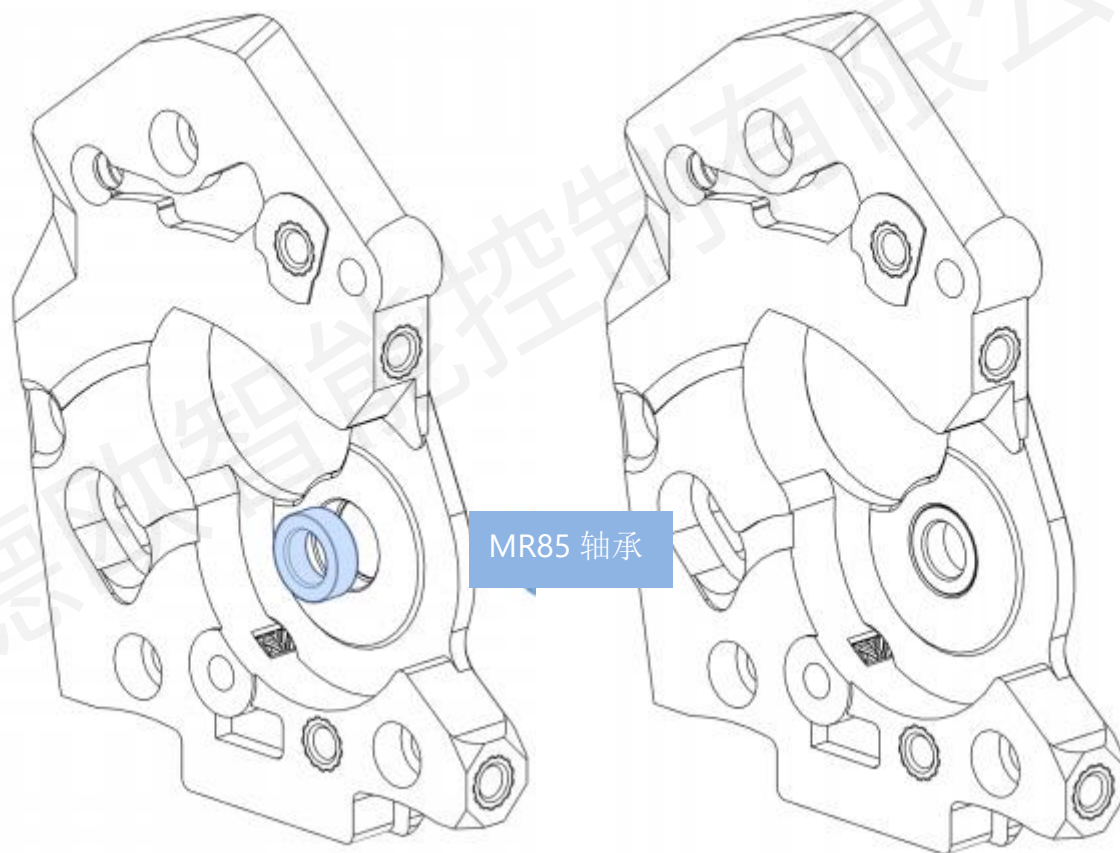


电机板

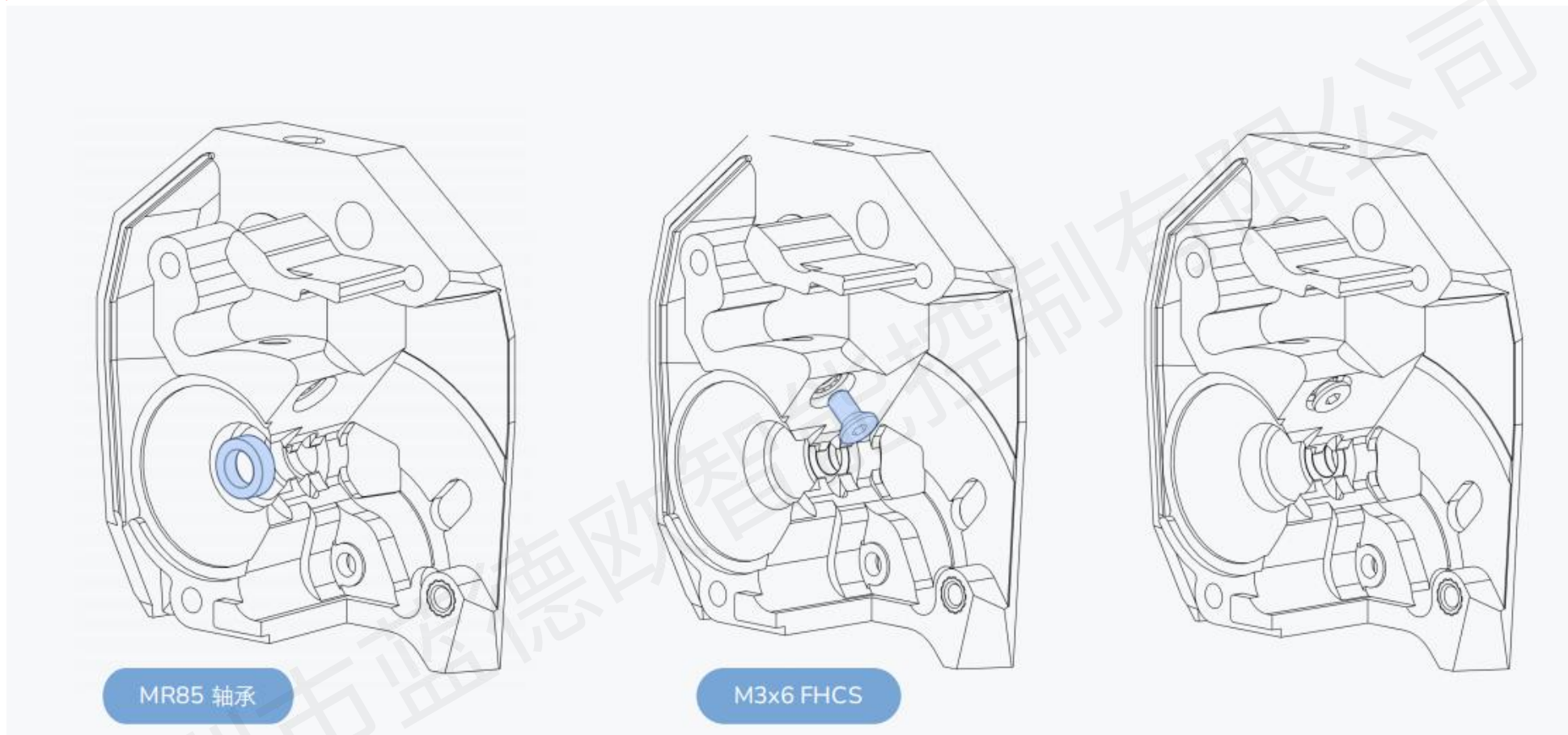
检查轴承配合： 轴承必须能够轻松地在轴上滑动和滑动,以使齿轮能够自动定心。 将轴承压在轴上会损坏它们。 如果需要,轻轻打磨轴。



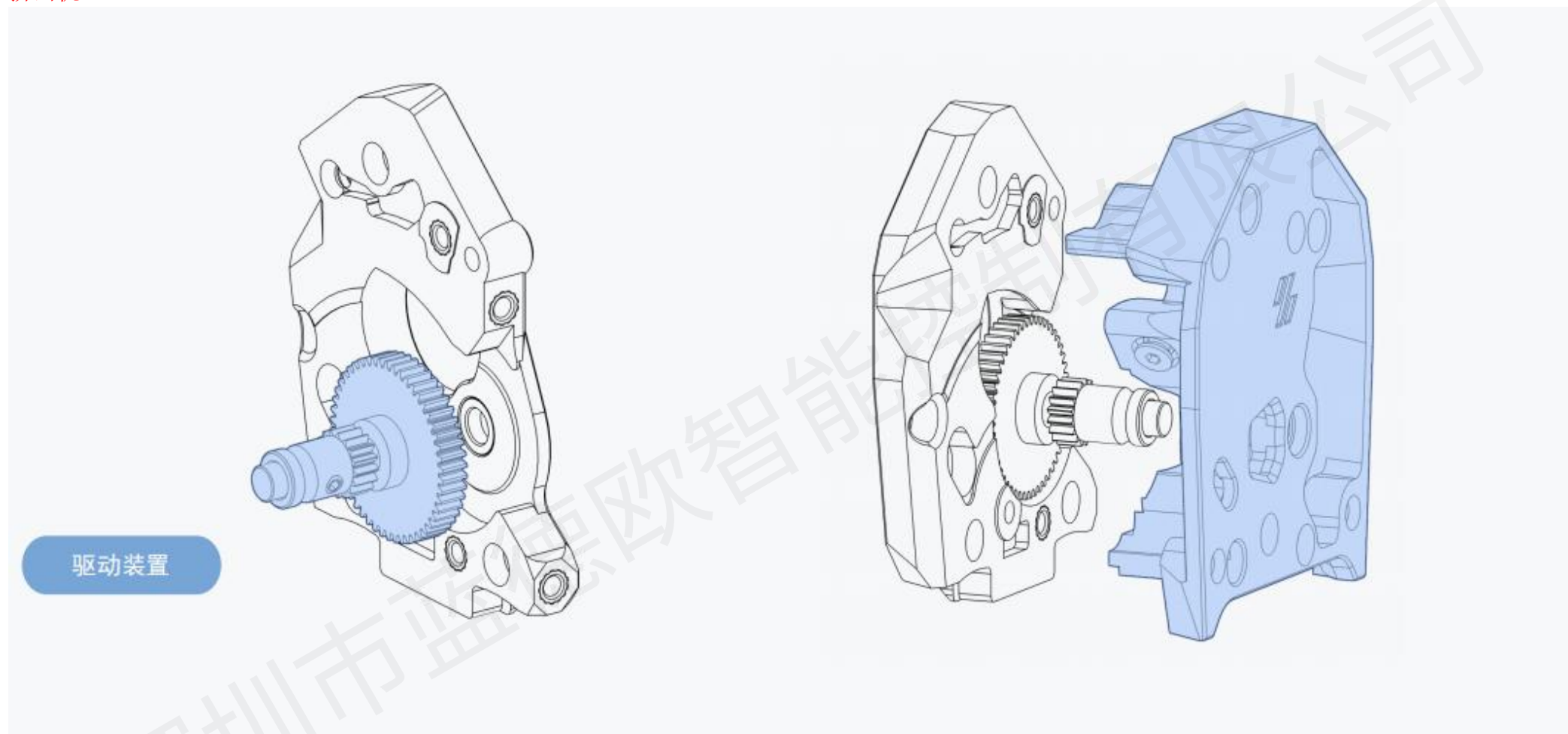
MR85 轴承



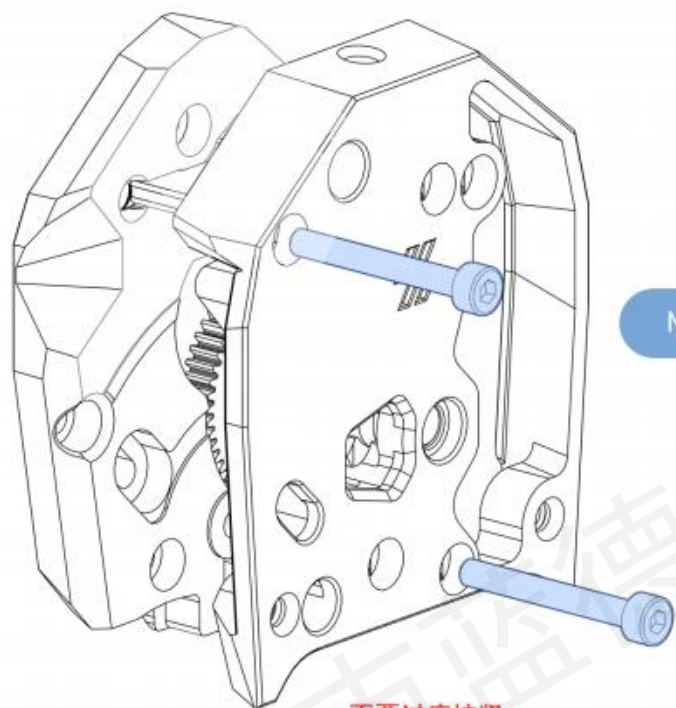
MR85 轴承



轴承装配 将轴承完全压入塑料槽位中。
插入时请均匀施力，避免按压轴承内圈。



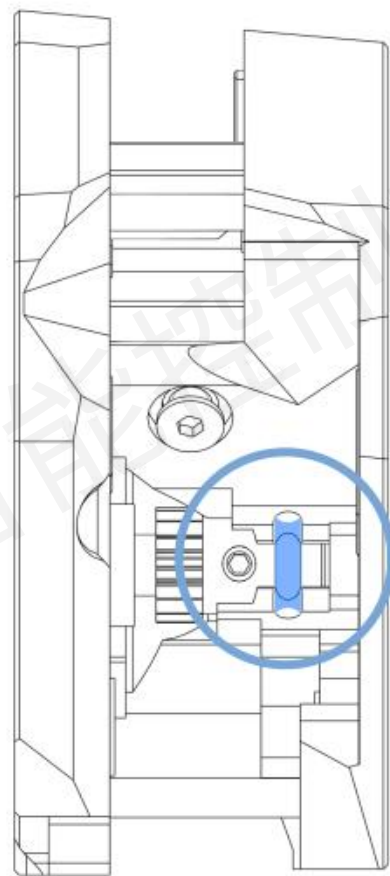
挤出机



M3x25 SHCS

不要过度拧紧

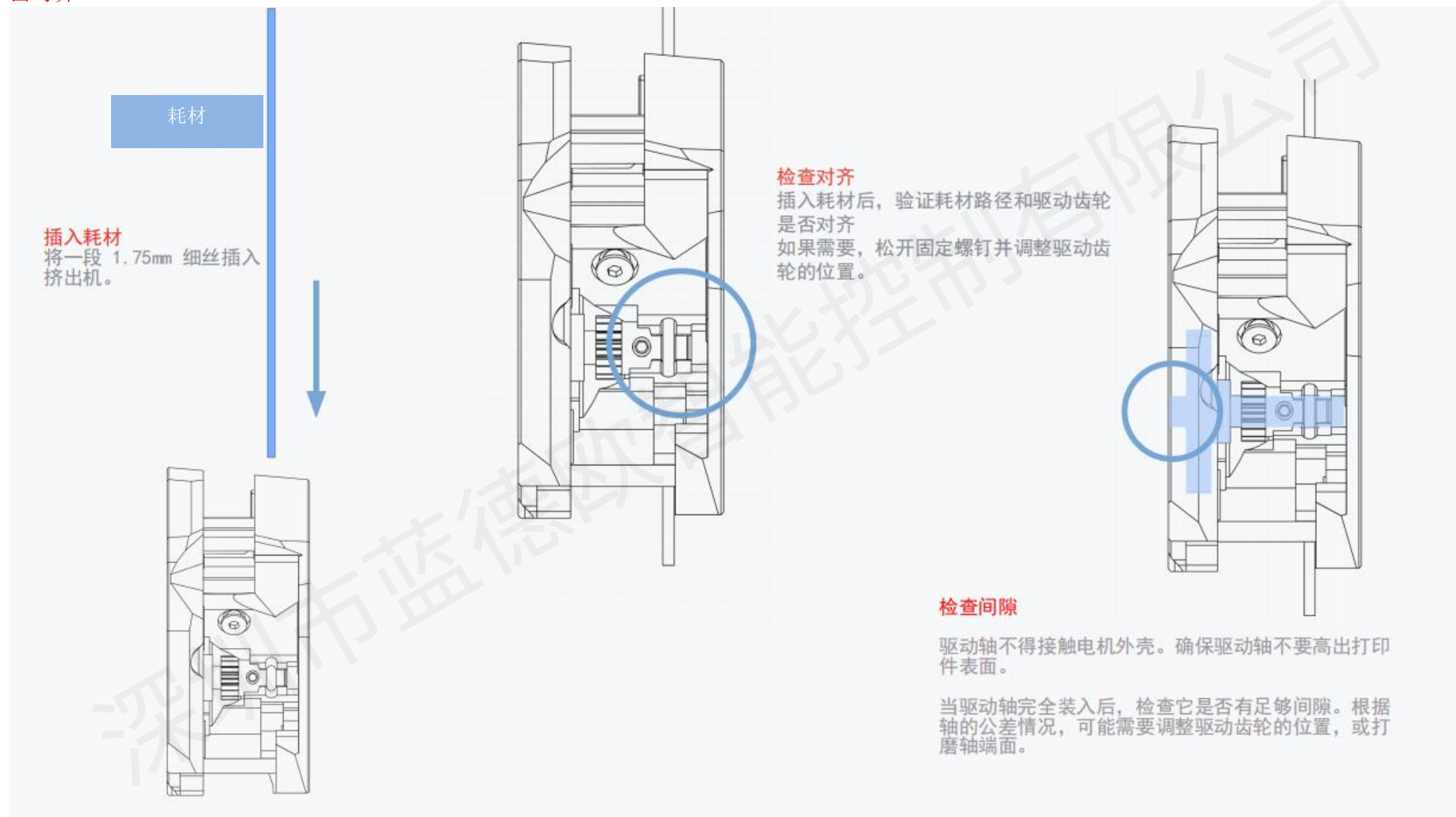
如果拧到塑料弯曲并开裂，那就说明过头了。退回 2 圈，丢掉零件，重新打印后再试。



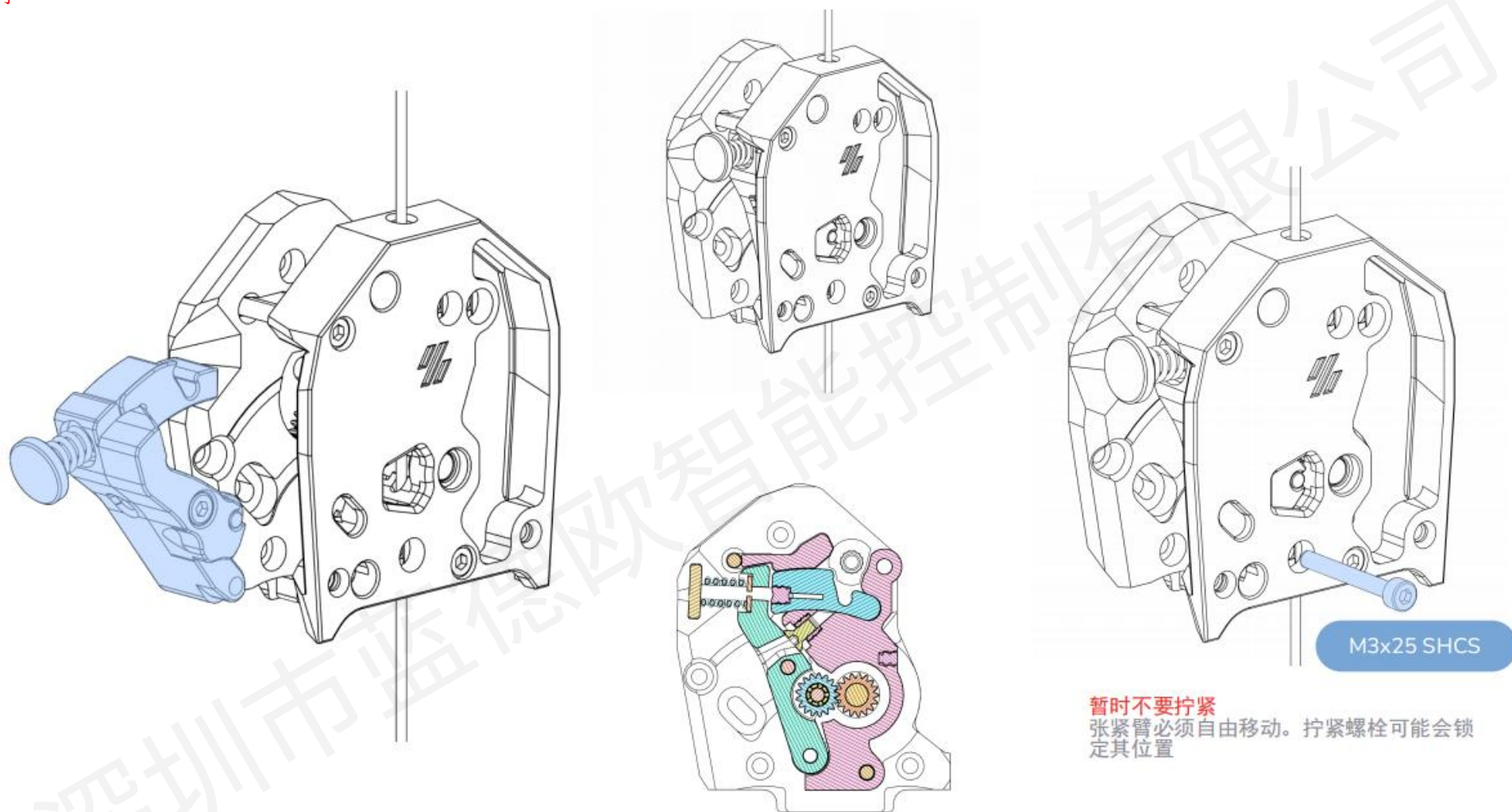
初始对齐检查

检查细丝路径是否与驱动齿轮的齿部分对齐。

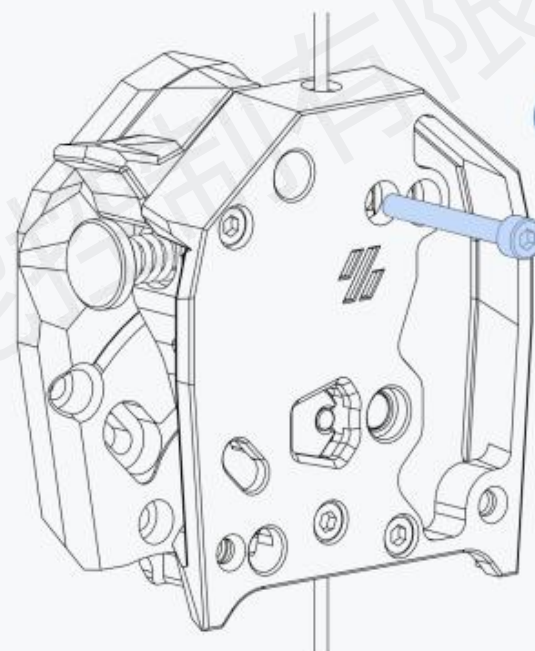
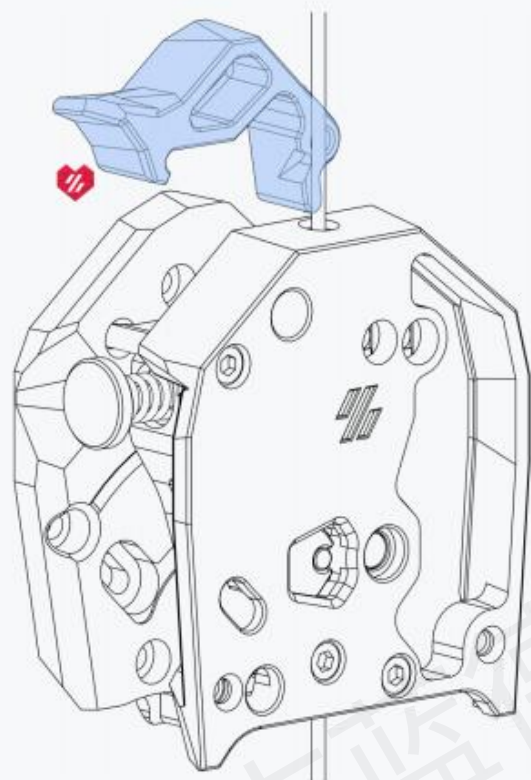
齿对齐



张紧臂

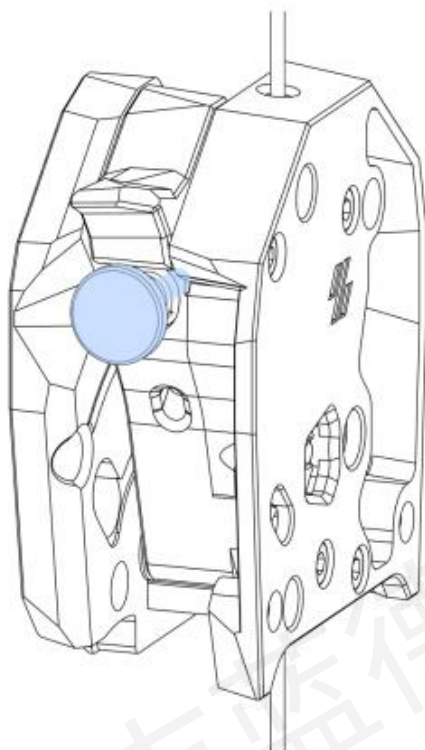


锁扣



M3x25 SHCS

张紧结构



张紧旋钮

顺时针旋转手拧螺钉会增加张力，并让送料齿轮更紧地咬住耗材。张力过大会导致打印问题。

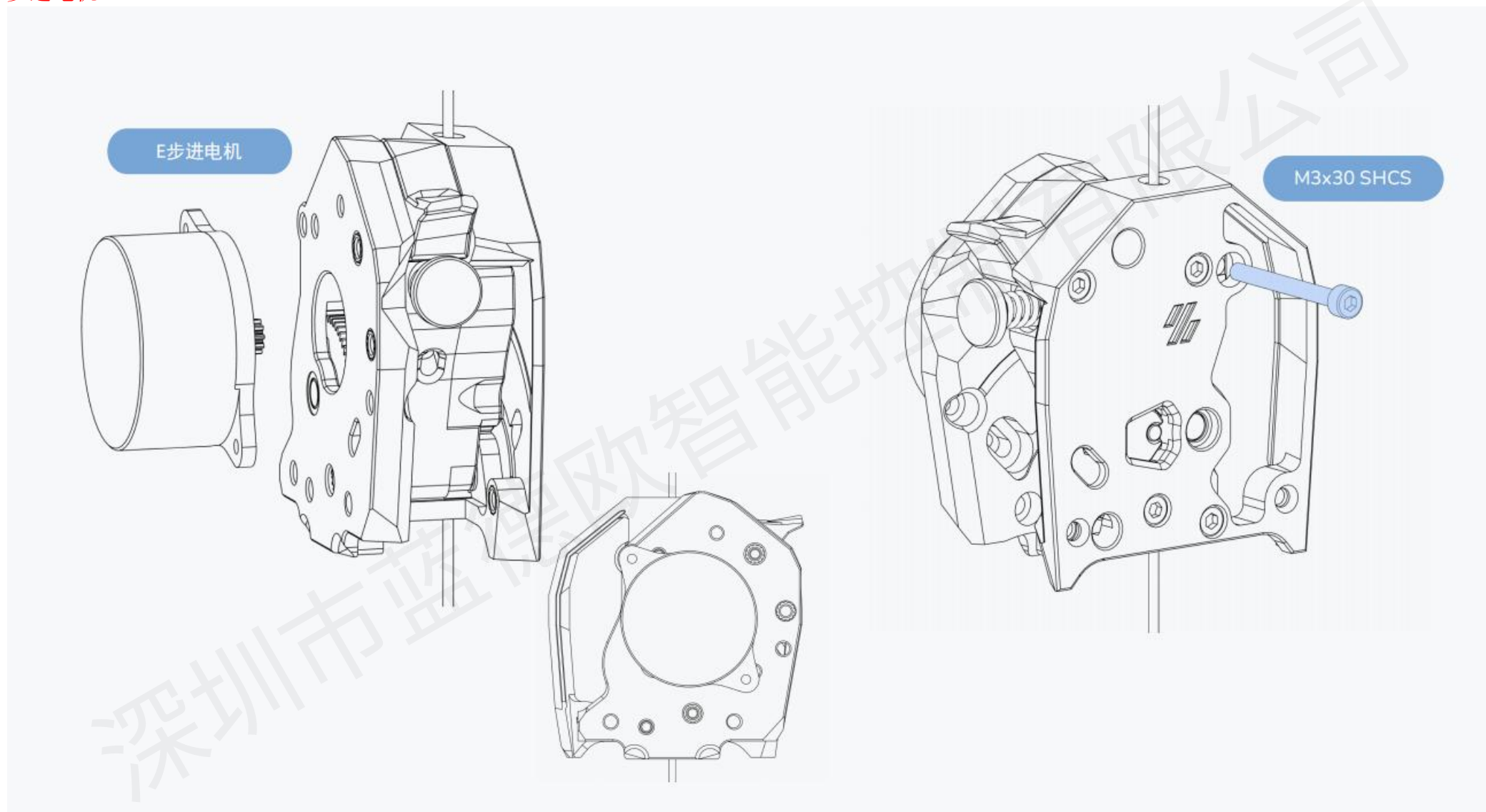


防挤压零件

较软、较柔性的材料在张力过大时会变形，导致挤出效果变差。

ClockWork2 增加了一个调节功能，用于设定主动齿轮和惰轮之间的最小距离，从而限制对耗材的挤压，并防止齿轮咬合过紧或挤出机卡死。

步进电机

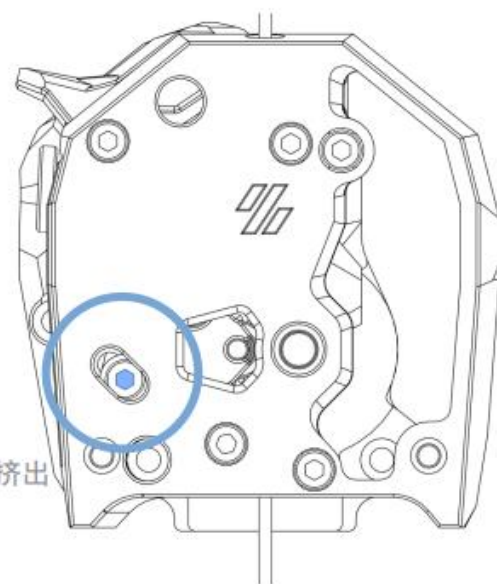


步进电机

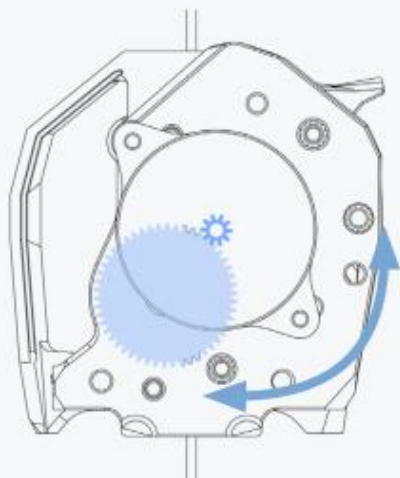


暂时不要拧紧
电机位置将在接下来的步骤中进行调整。暂时不要完全收紧。

M3x8 SHCS

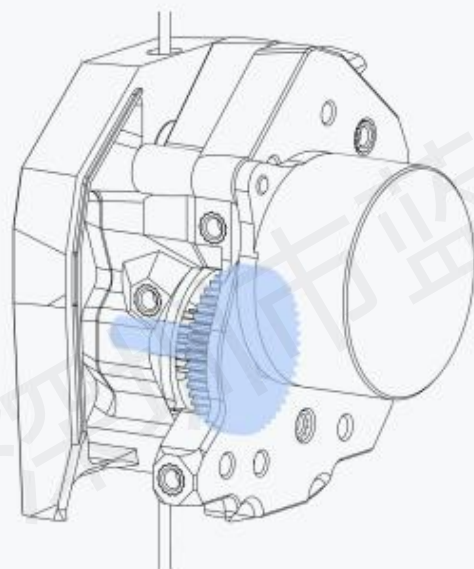


操作孔
第二个电机螺栓可从挤出机的调整。



设置齿轮啮合

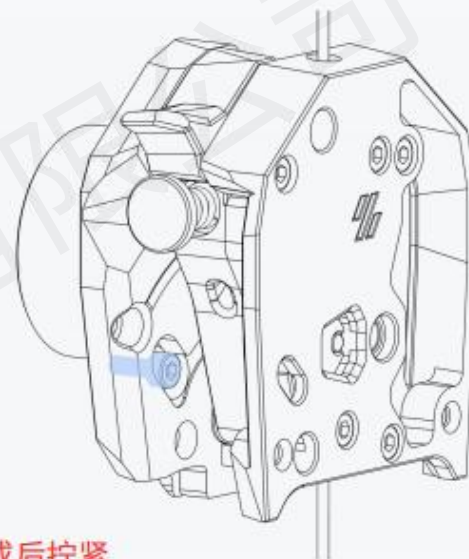
调整步进电机位置，使电机齿轮与挤出机齿轮的齿面充分啮合并相互重叠。两个齿面之间只需要保留很小的间隙，齿轮不能互相顶死。



检查齿轮间隙

齿轮应有轻微间隙，不应完全紧贴小齿轮。

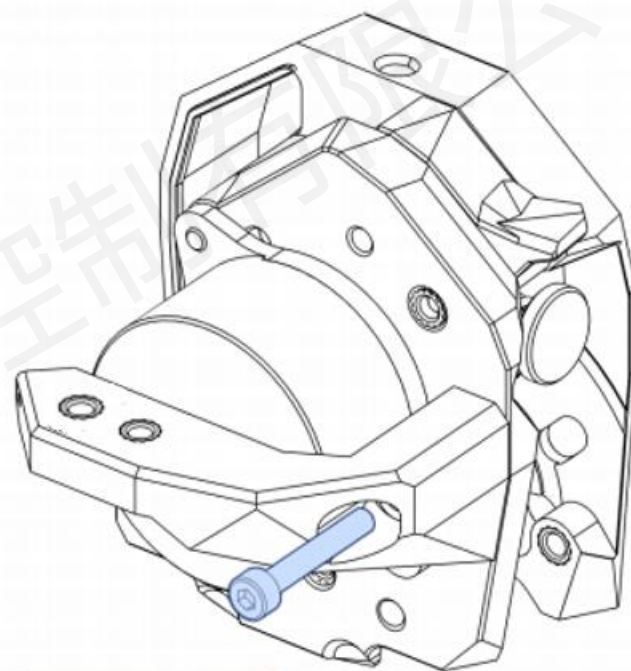
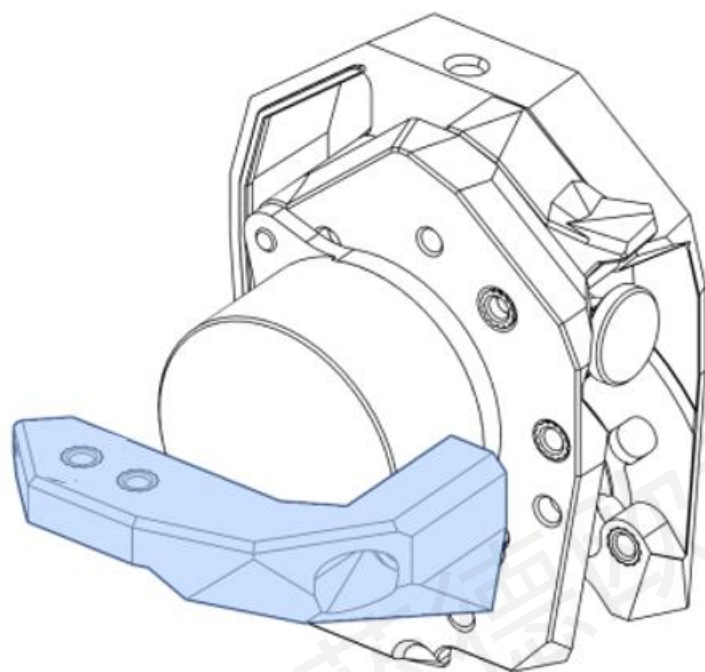
调整电机位置，直到齿轮之间有细微的活动间隙。



完成后拧紧

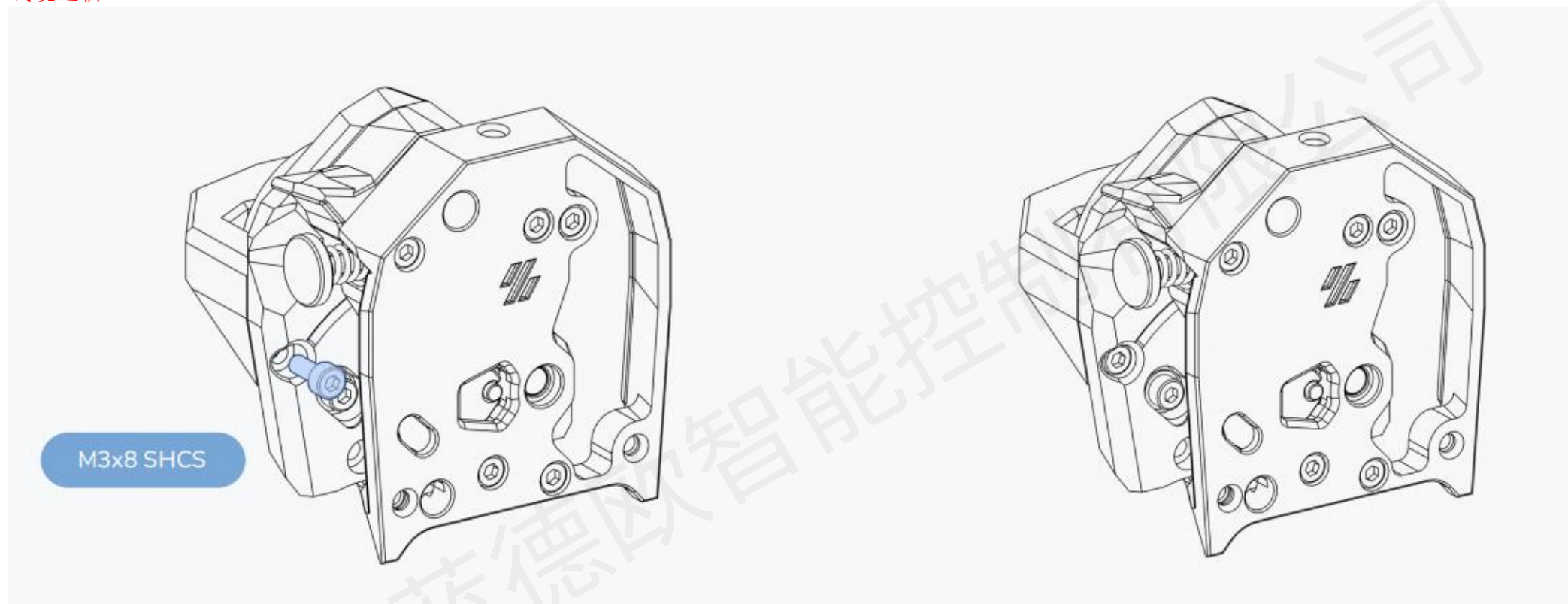
调整后不要忘记拧紧第二个电机螺栓。

链条固定座

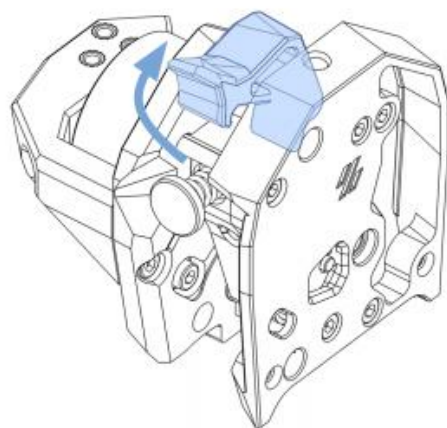


M3x20 SHCS

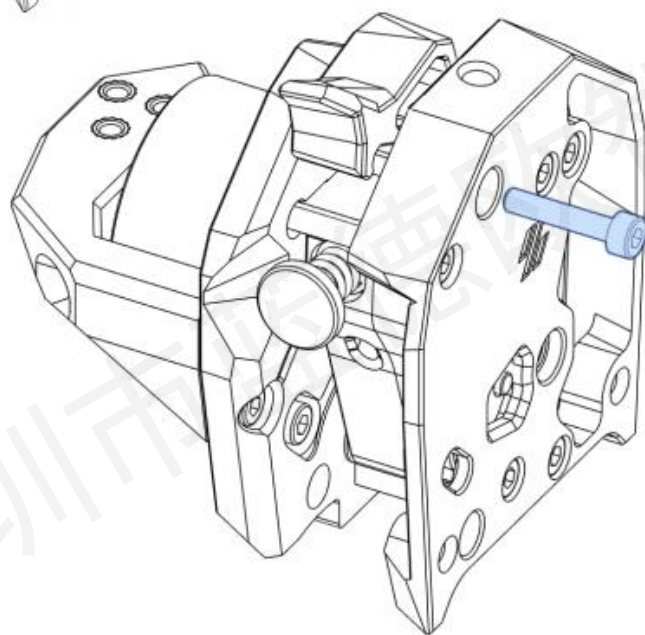
线缆过桥



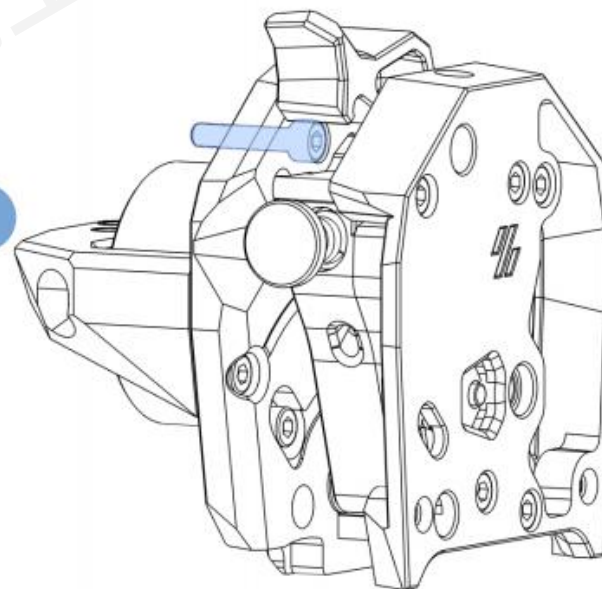
线缆盖



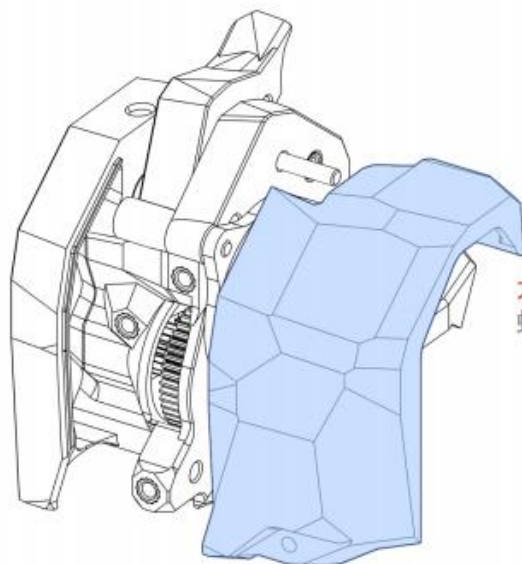
打开锁扣
松开耗材锁，露出电缆盖的螺栓孔



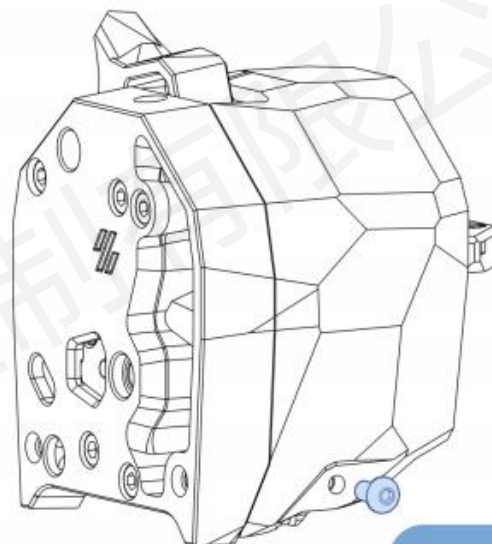
M3x16 SHCS



线缆盖

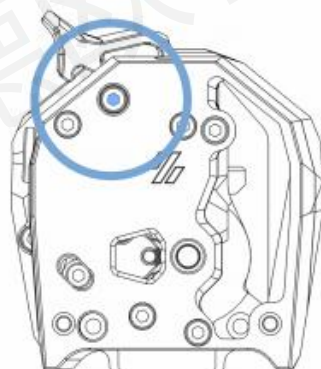


不要过度拧紧
螺栓直接拧入塑料中。



M3x6 BHCS

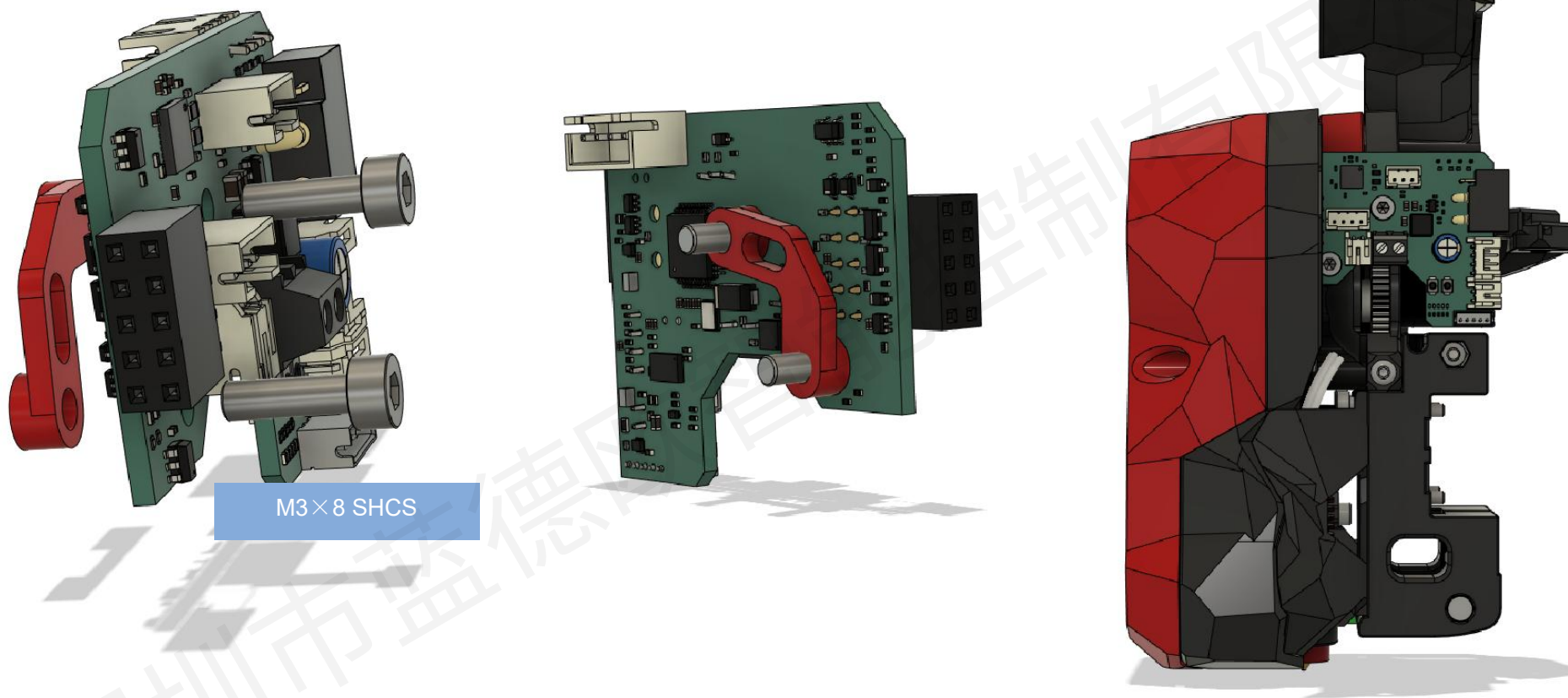
操作孔
可以从挤出机的前部调整螺栓。



打印头PCB板安装

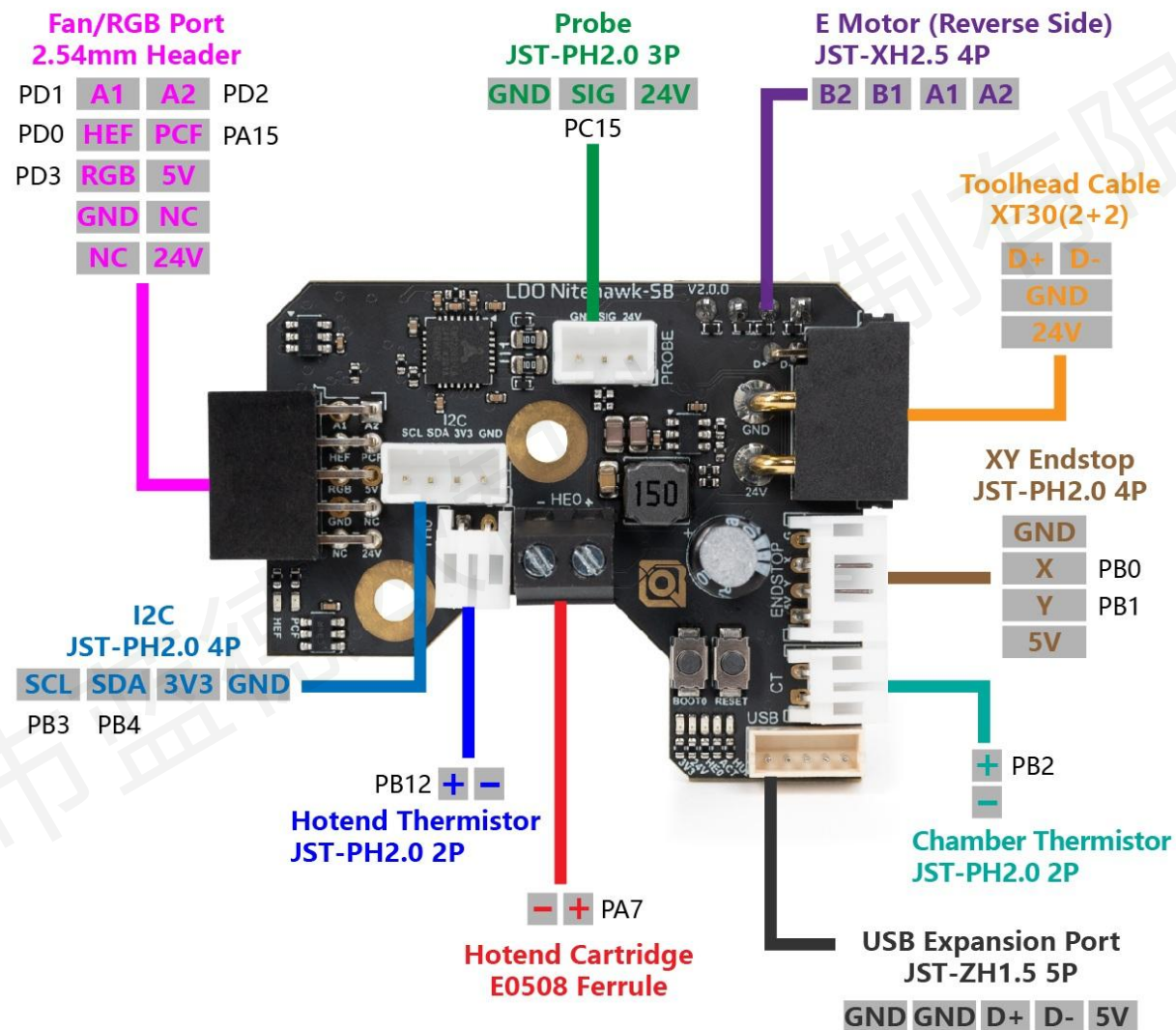
工具头板

在工具头板后垫上打印件防止挤压受损。 用
M3x8 SHCS固定在挤出机模块上。



打印头PCB板接线

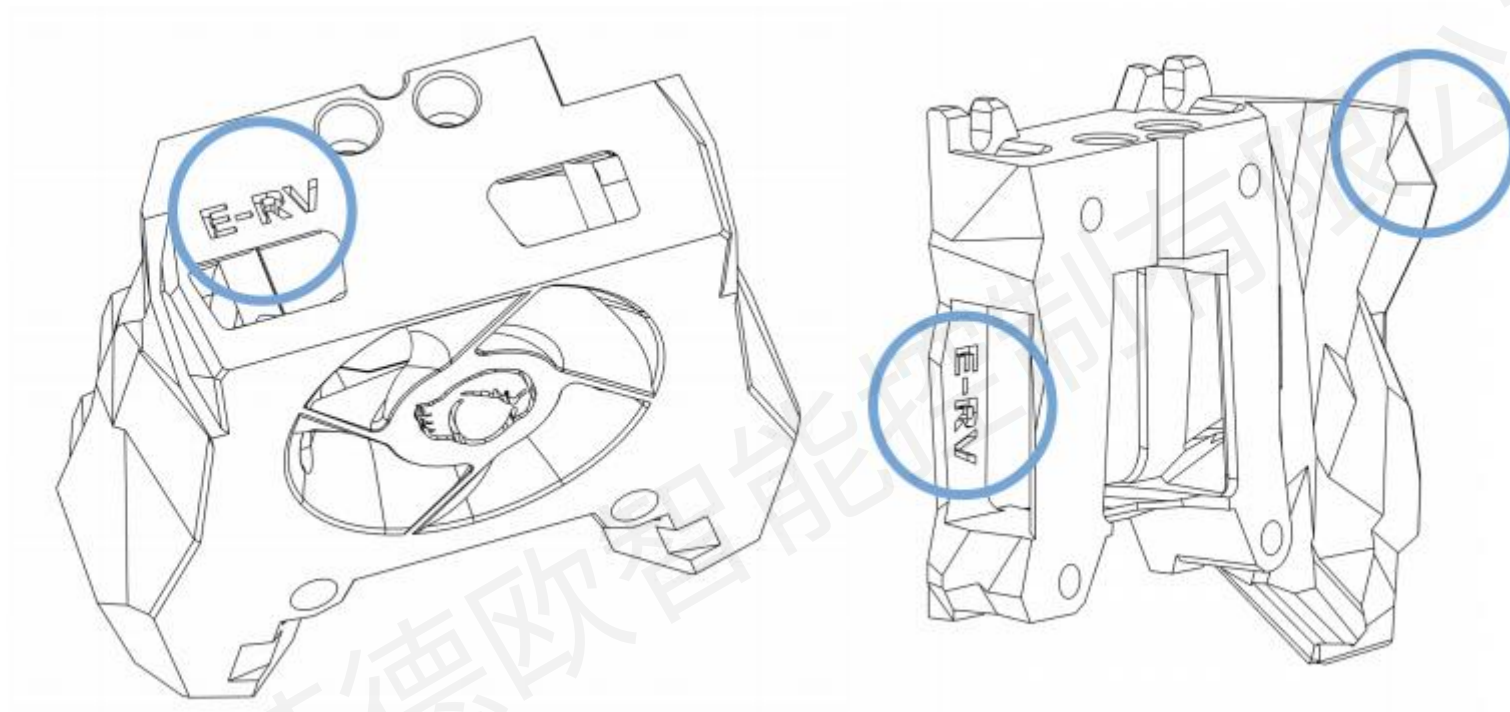
LDO Nitehawk-SB “V2” PCB板走线



零件标记

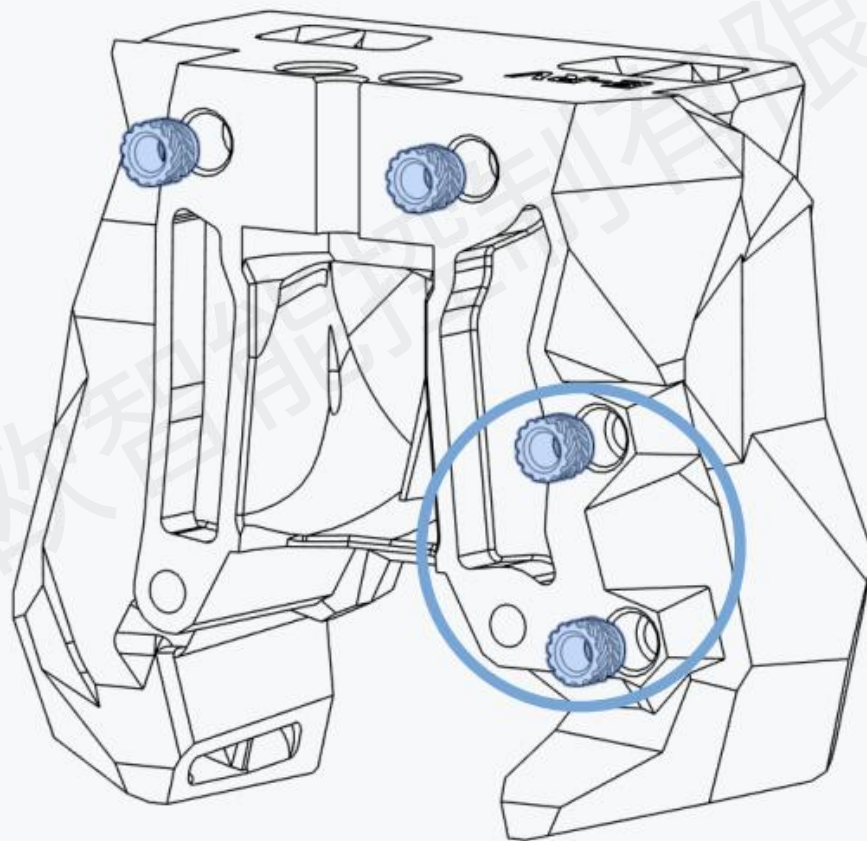


零件标记

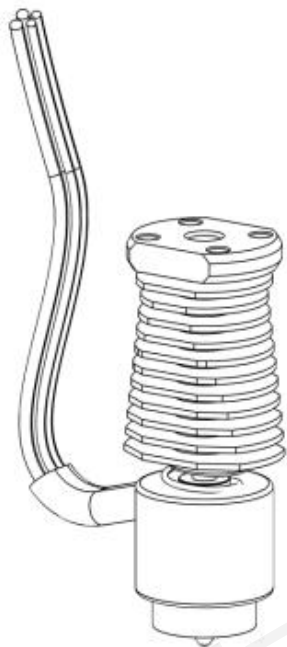


准备工作

M3×4×5 黄铜螺母



准备工作



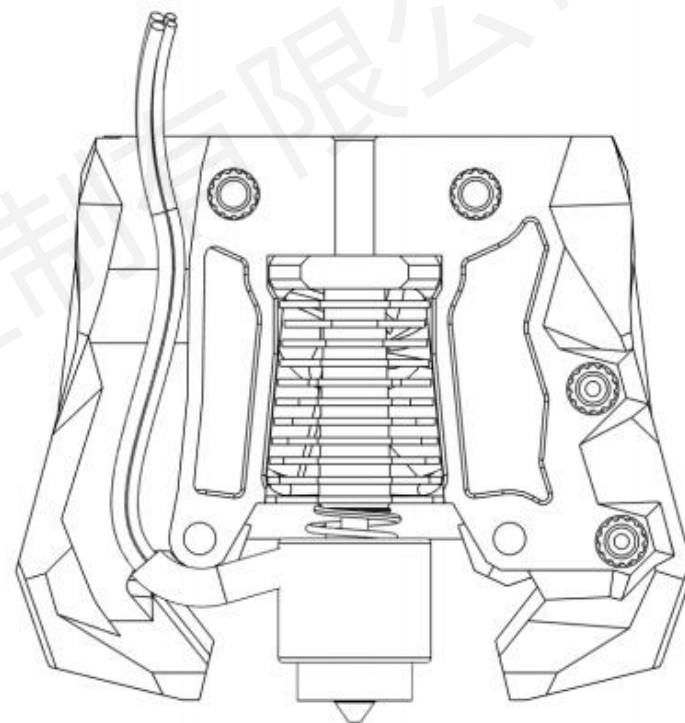
热端走线

如右图所示布置电线。这对于所有热端类型都是通用的。

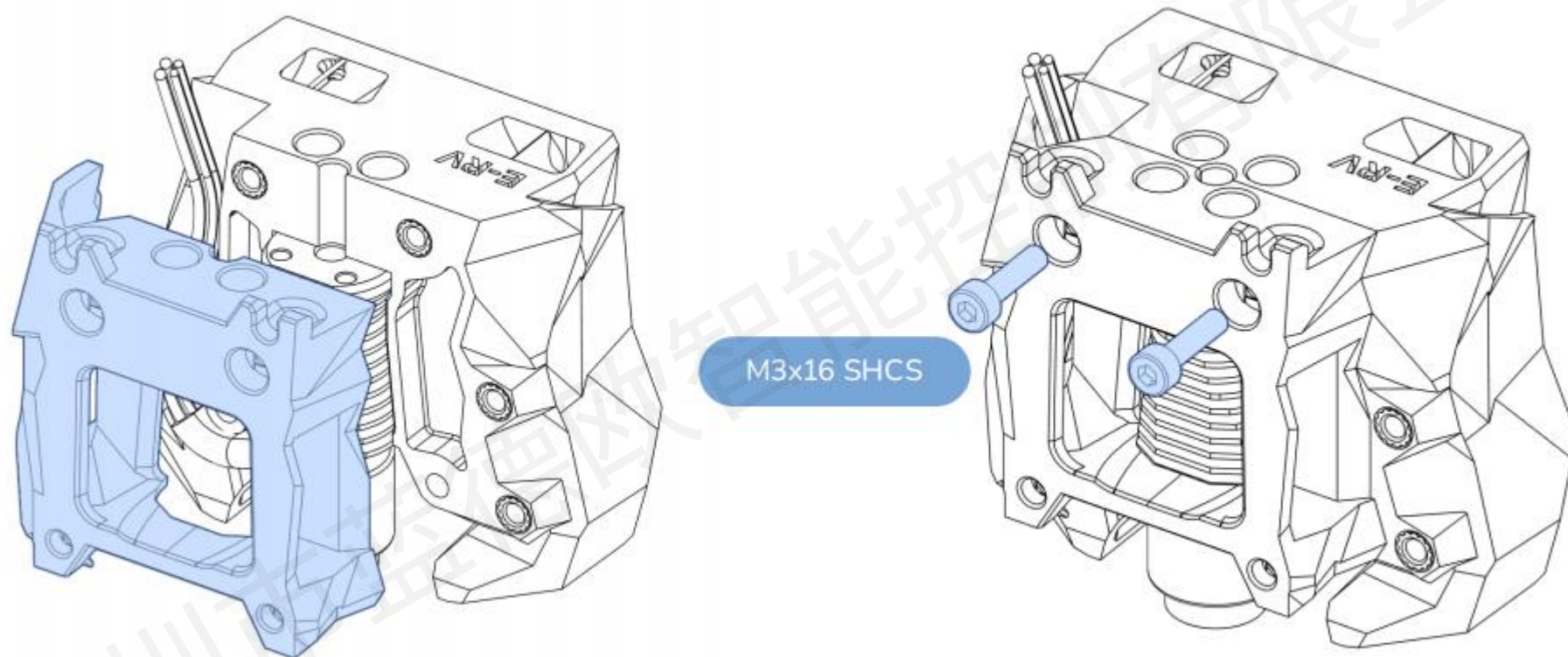
弯折理线架

请小心地弯折理线架，使其避开打印好的部件（工具头外壳）。务必牢牢握住加热块，以防止弯折过程中扭伤喷嘴。

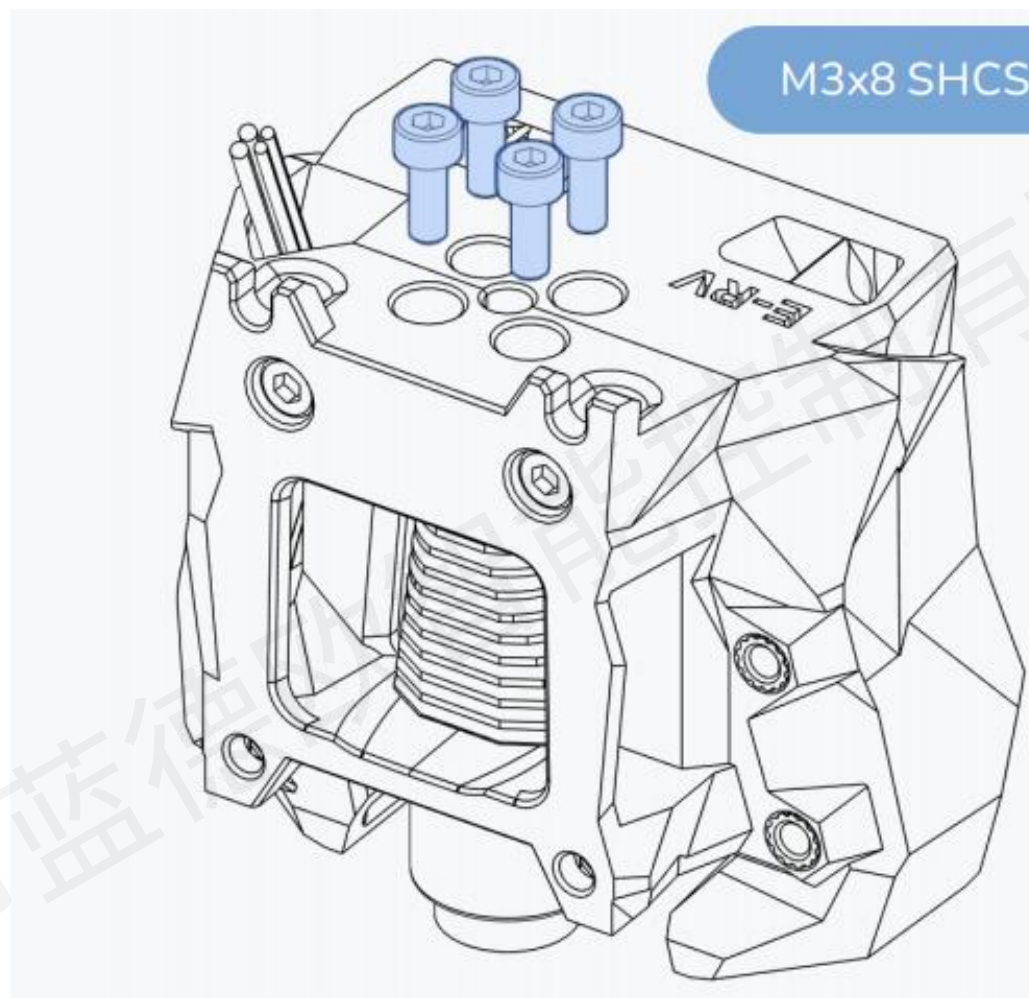
至关重要的是：必须将 喷嘴完全用手拧紧至散热器中。



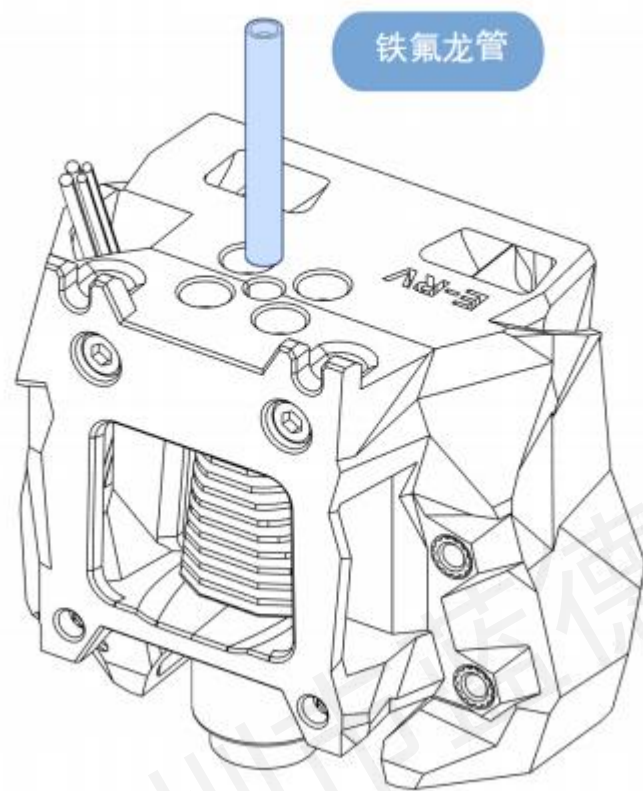
打印头模块



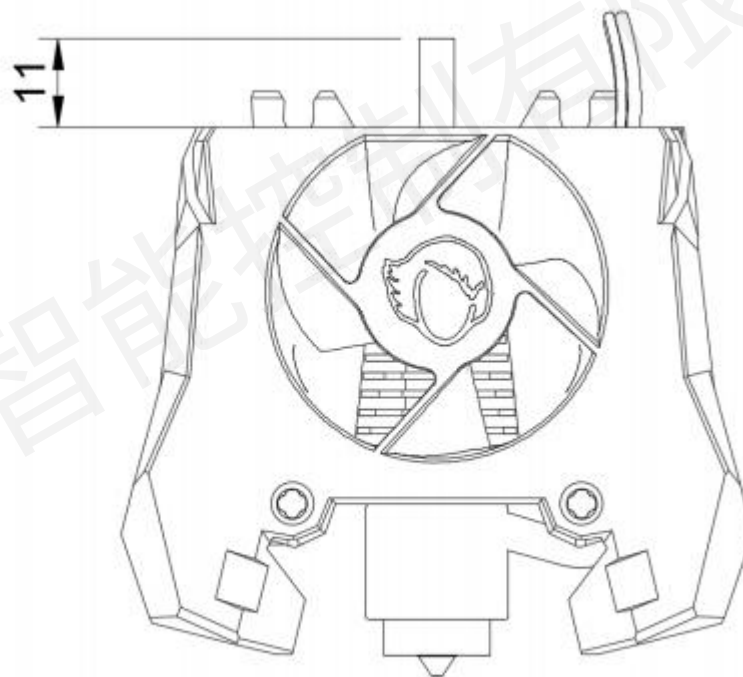
打印头模块



工具墨盒

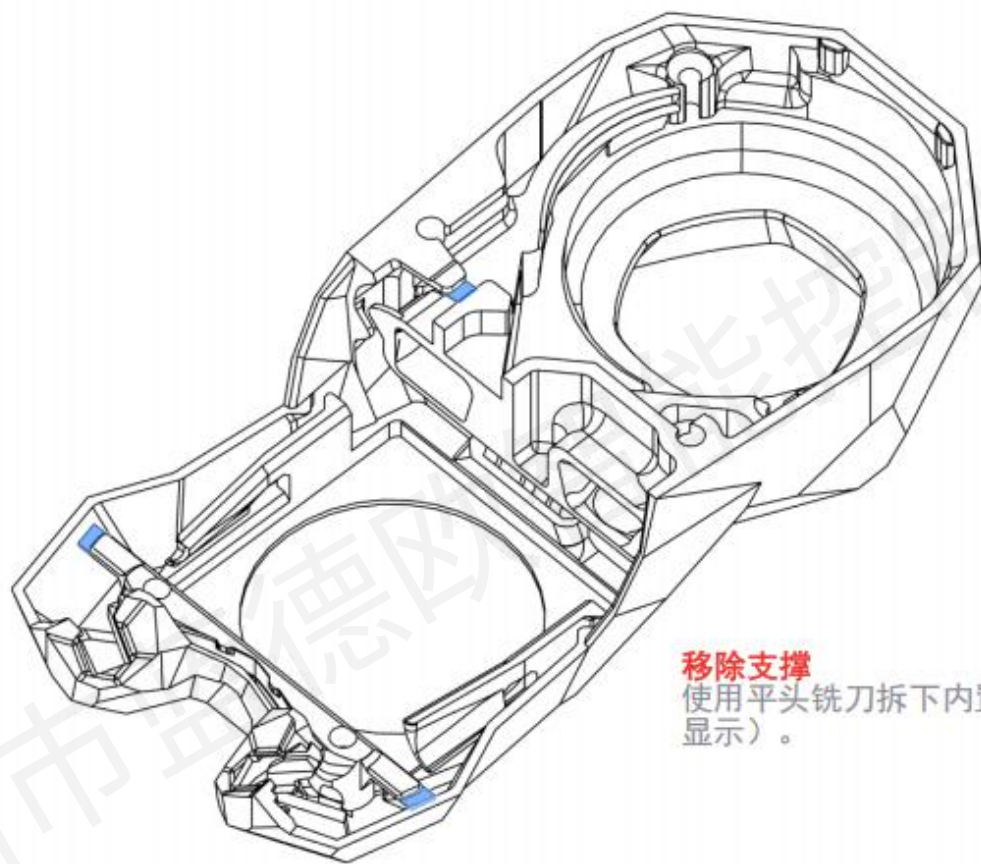


铁氟龙管伸出量：铁氟龙管应伸出打印件表面上方11 毫米。





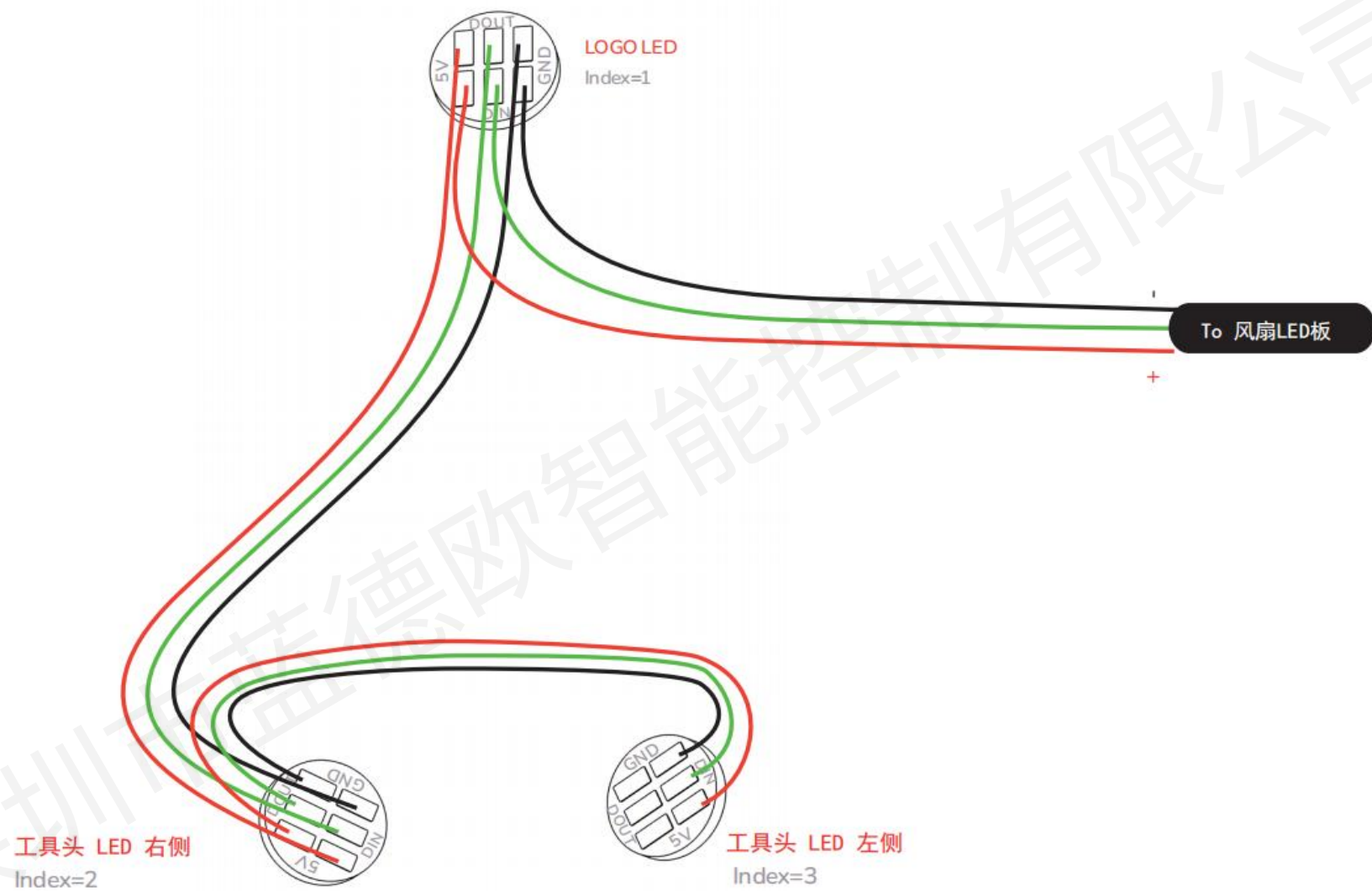
去除支撑



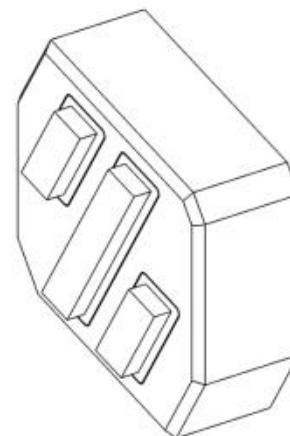
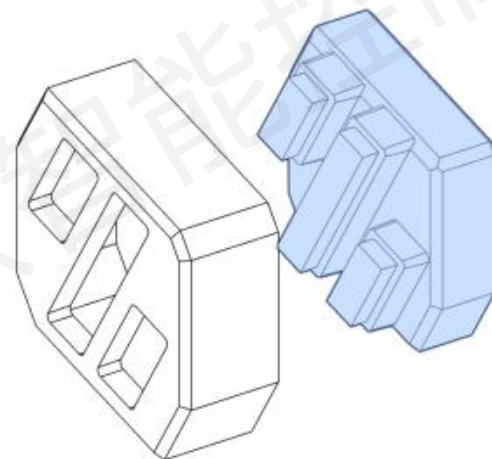
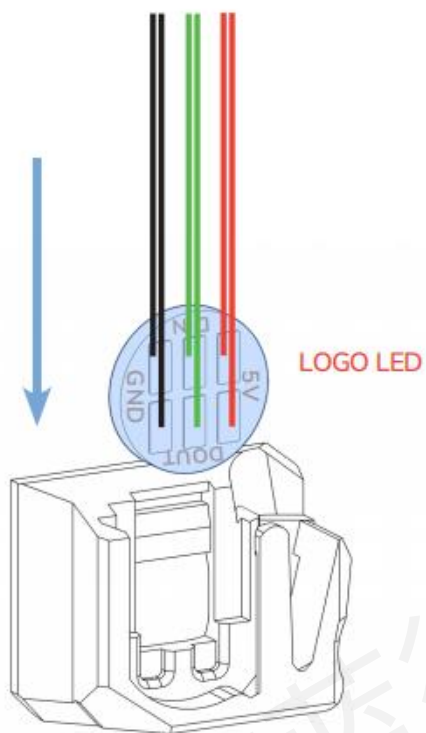
移除支撑

使用平头铣刀拆下内置支撑（图中突出显示）。

LED灯



LED灯

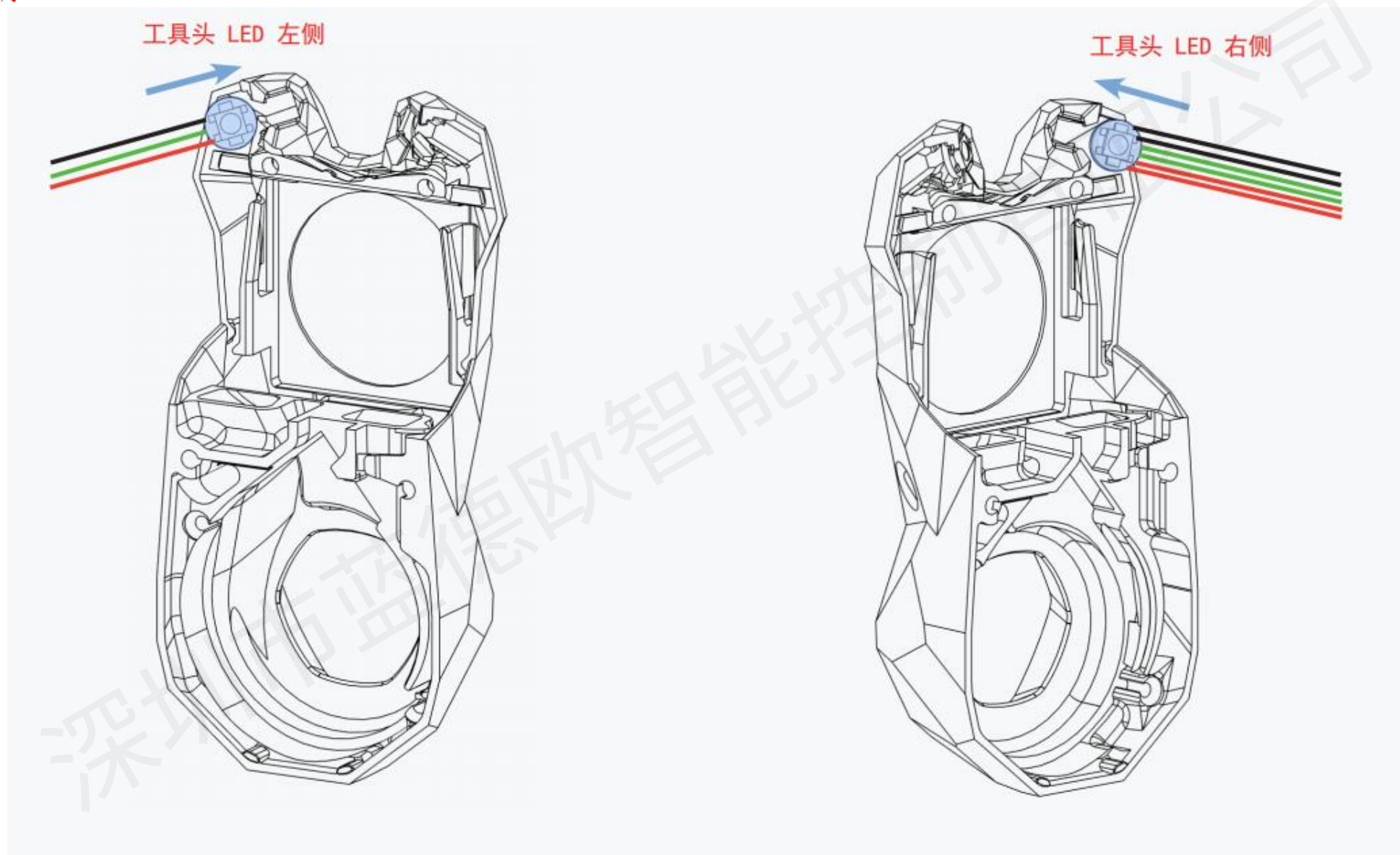


LED 扩散片与遮光罩

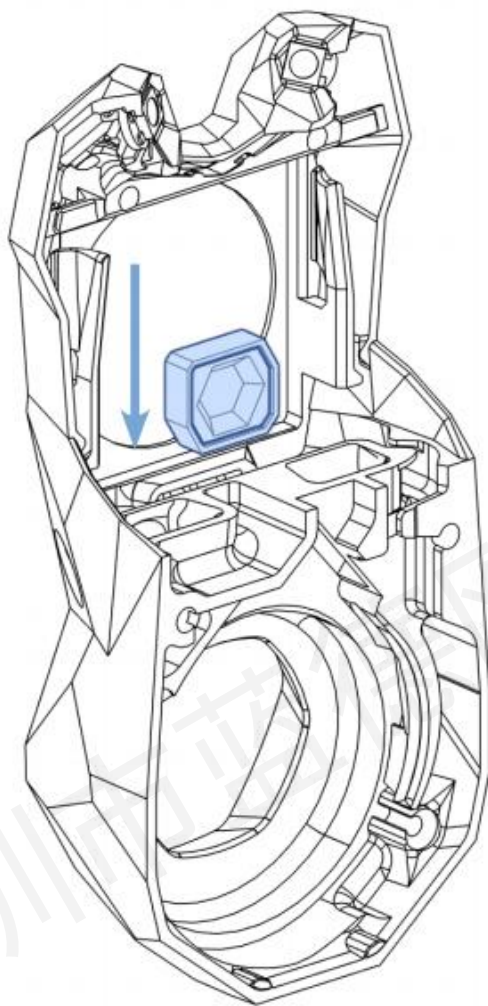
漫射器（突出显示的部分）印刷在半透明耗材中，以均匀地传播光线。

面罩（左侧部分）采用不透明耗材印刷，以防止光线泄漏，从而形成清晰的徽标。

LED灯

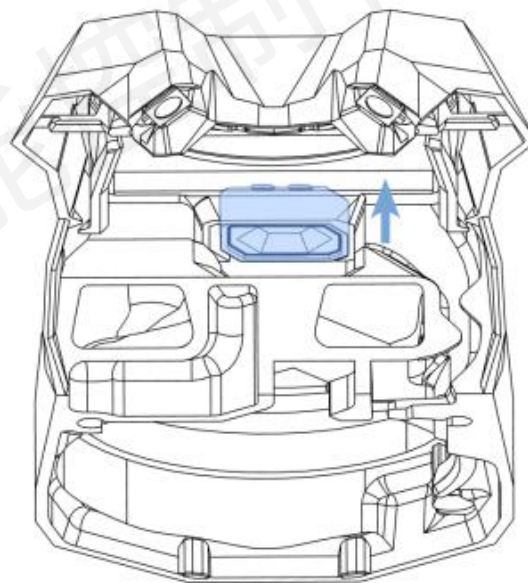


LED灯



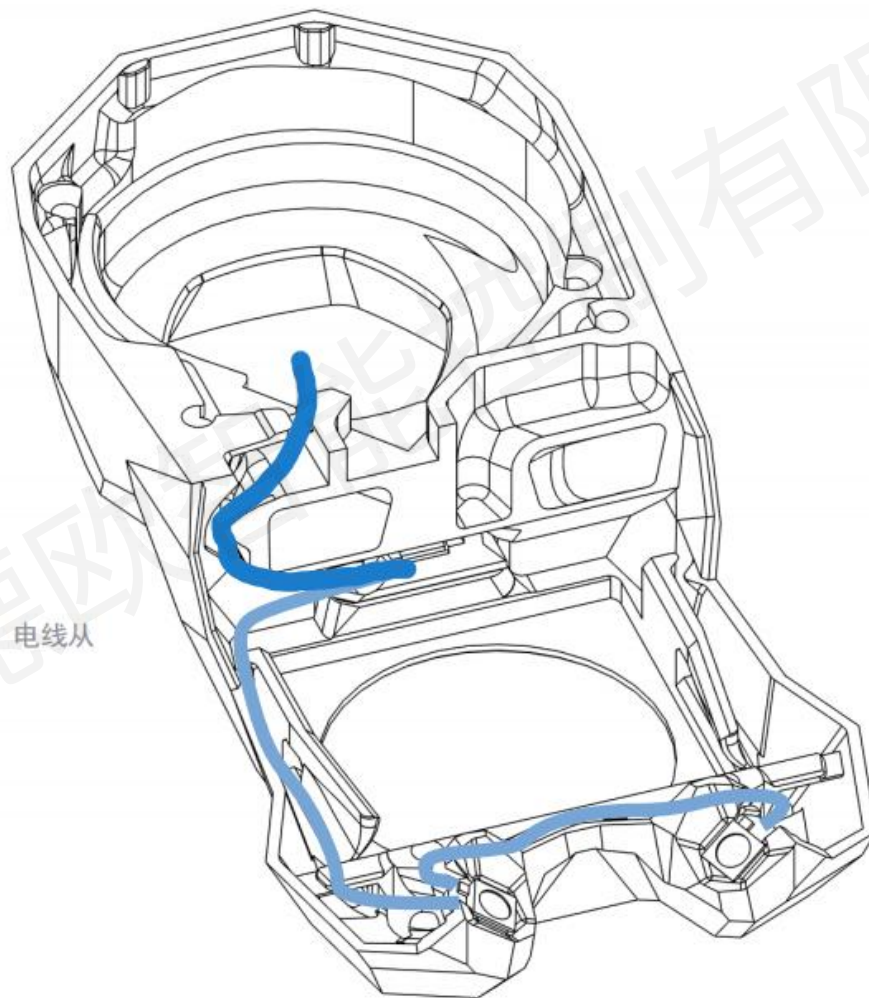
安装扩散片

插入打印的部件并将其向前推。

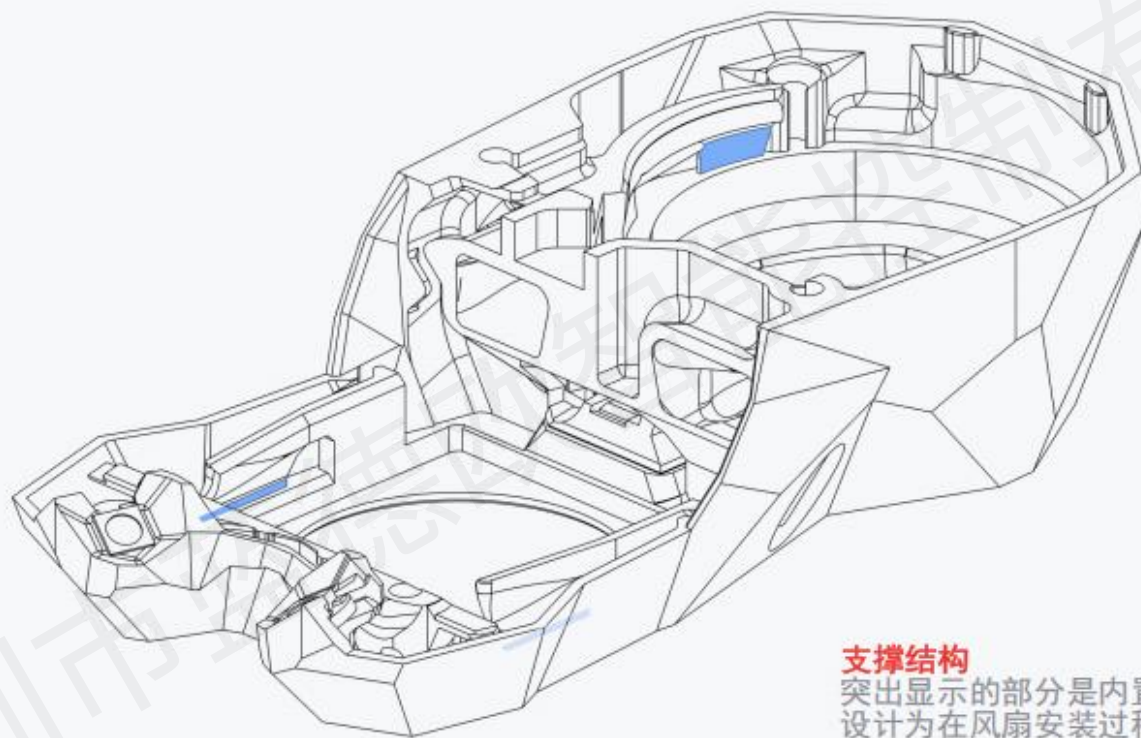


LED灯

LED 走线
如图所示布置 LED 线；电线从
右侧引出。



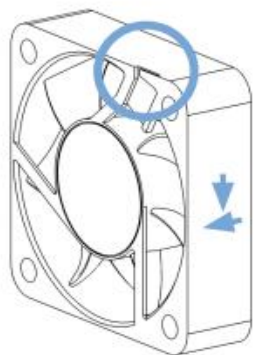
去除支撑



支撑结构

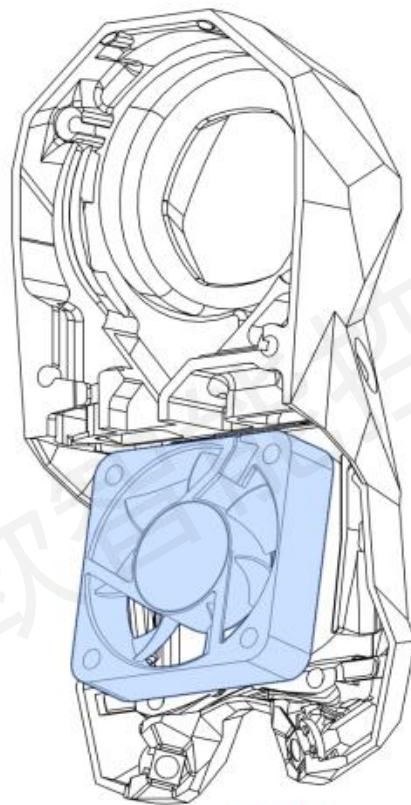
突出显示的部分是内置支撑结构。它们被设计为在风扇安装过程中破裂。

热端风扇



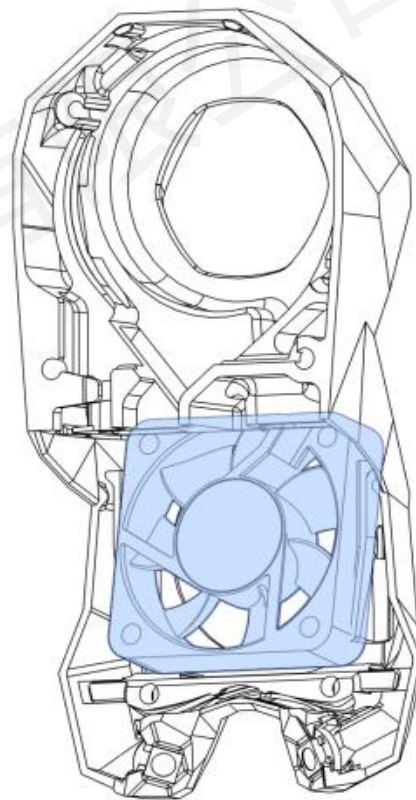
风扇方向

旋转风扇，使电线从顶部引出，
空气被“向内”推。



安装风扇

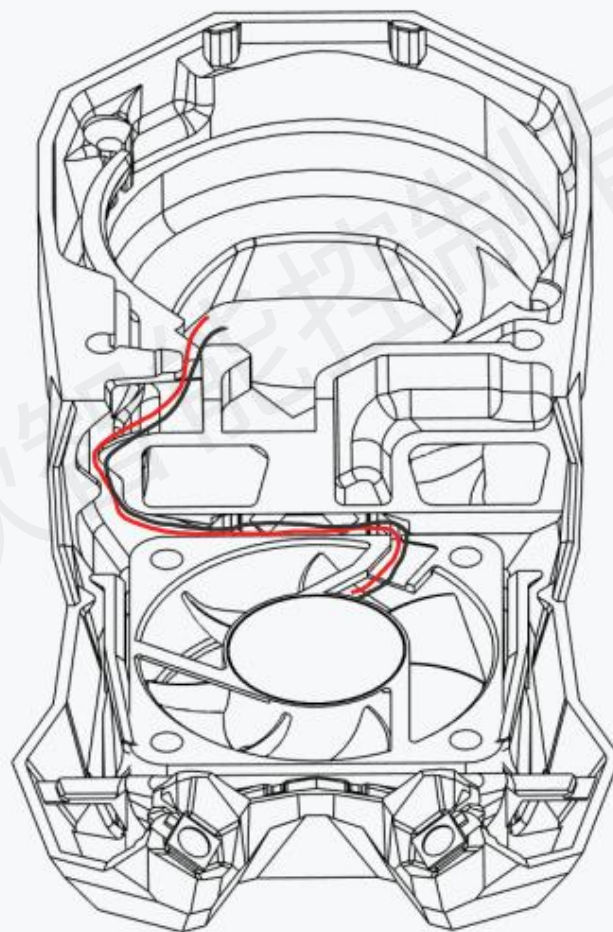
以小角度插入风扇并将其夹到位。
注意风扇方向。



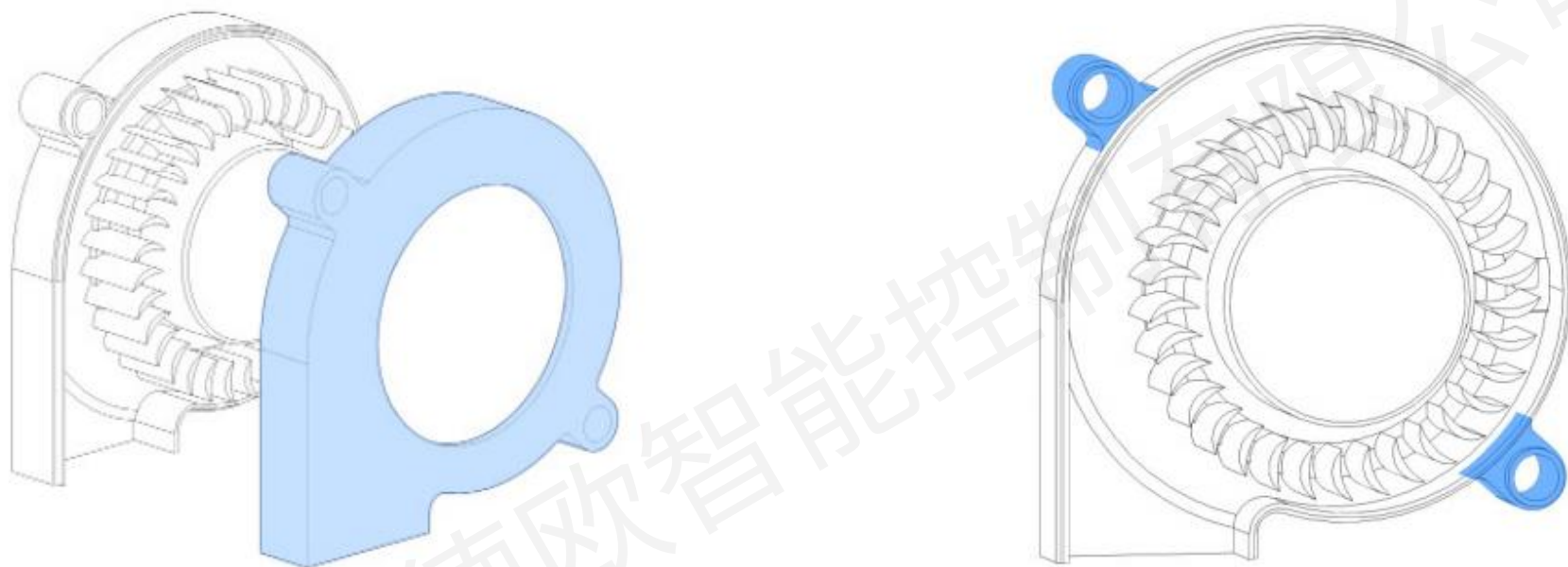
热端风扇

风扇走线

如图所示布置风扇电线，从右侧引出



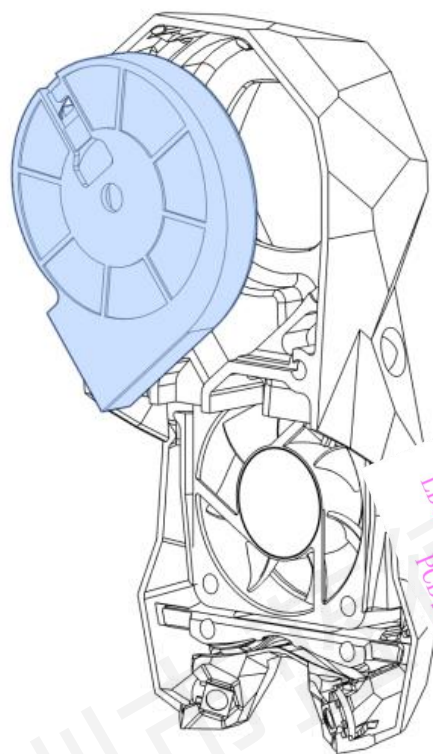
冷却风扇



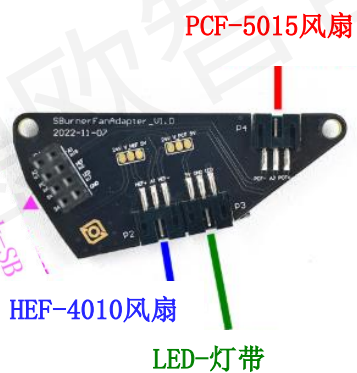
风扇预处理

移除 5015 风扇的前部（前盖/进风口挡板）。
剪掉原装自带的安装支耳（固定耳），并将剪
痕打磨平整。

冷却风扇

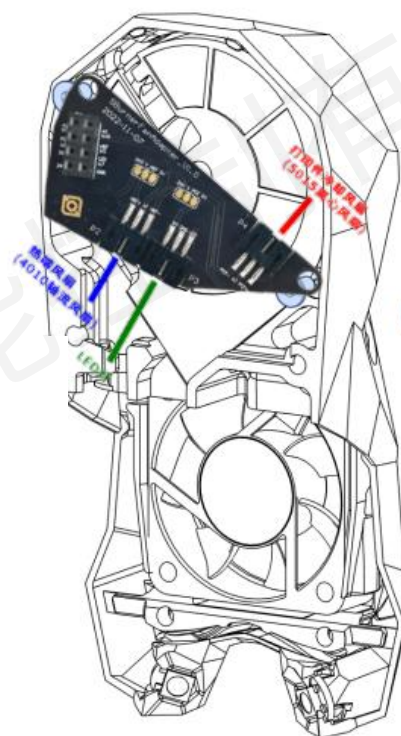


LDO Nitohawk-SB
PCB板



风扇和LED灯电路板

将电路板放置在打印件冷却风扇上用M3x10 FHCS螺栓固定。



M3x10 FHCS

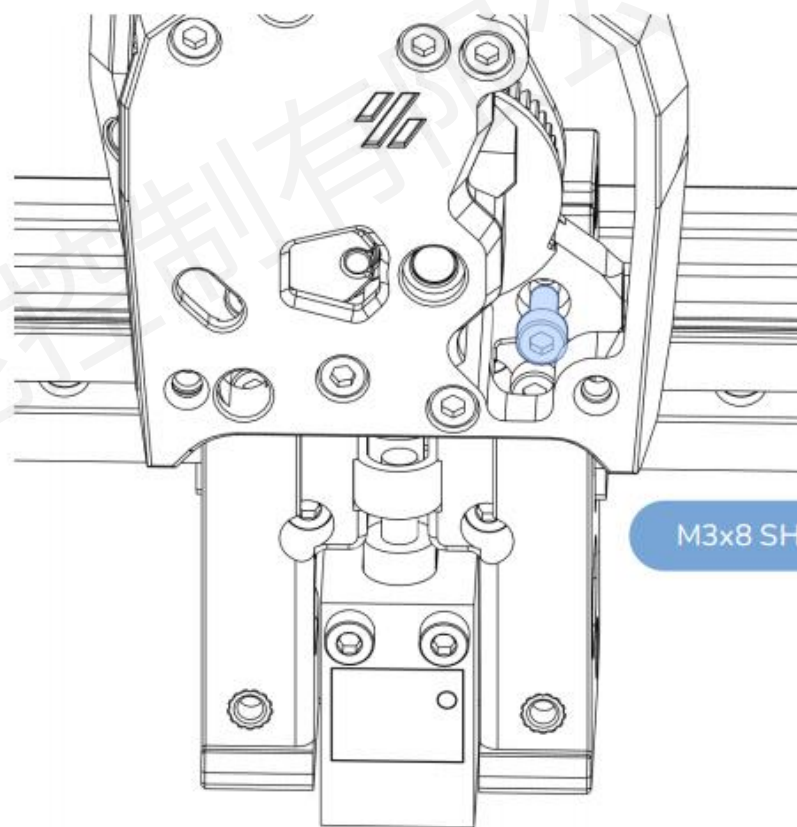
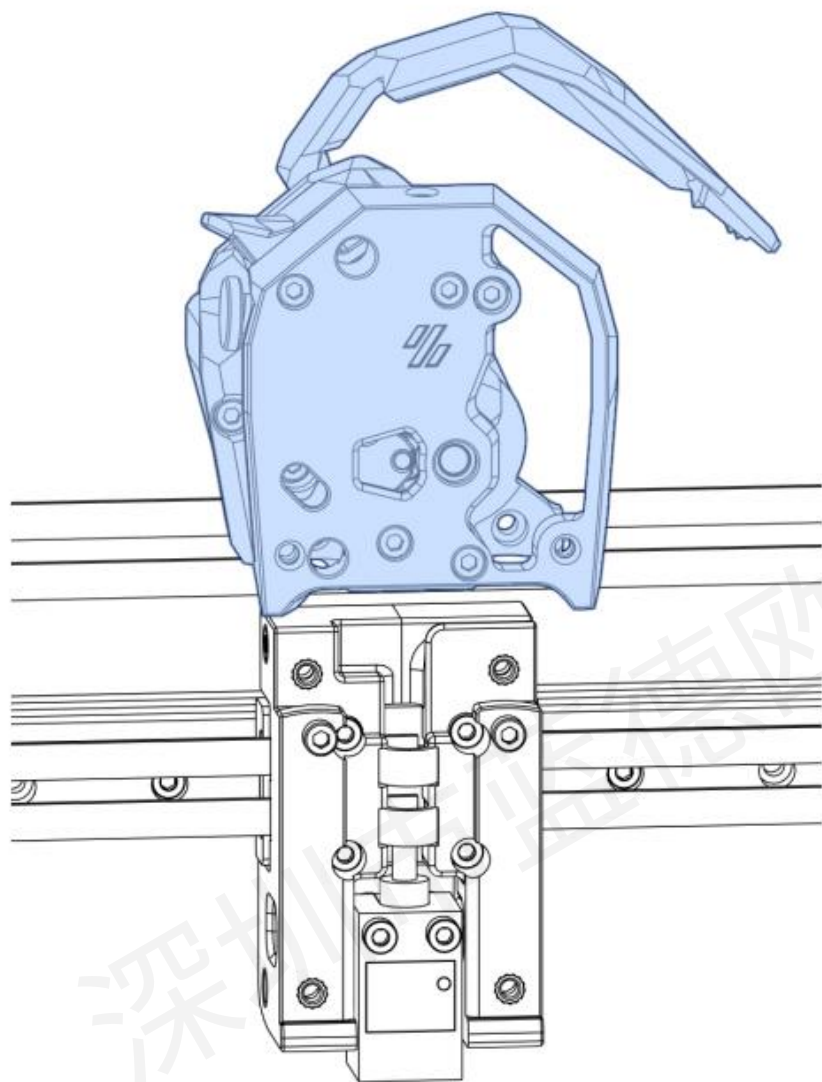
不要拧的太紧

螺栓直接拧入塑料中，拧的太紧可能会弯完电路板。

工具头

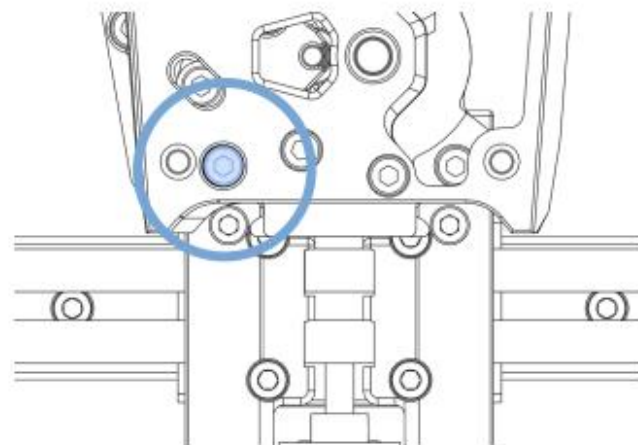
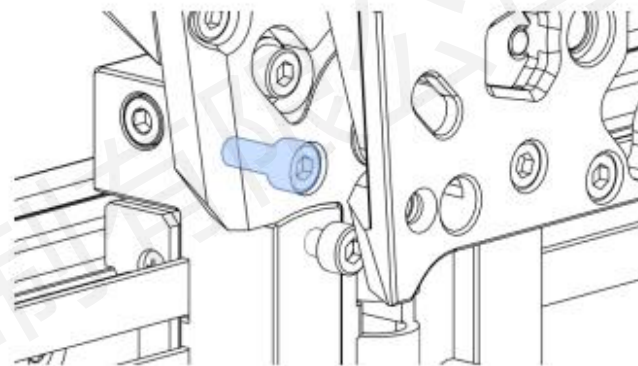
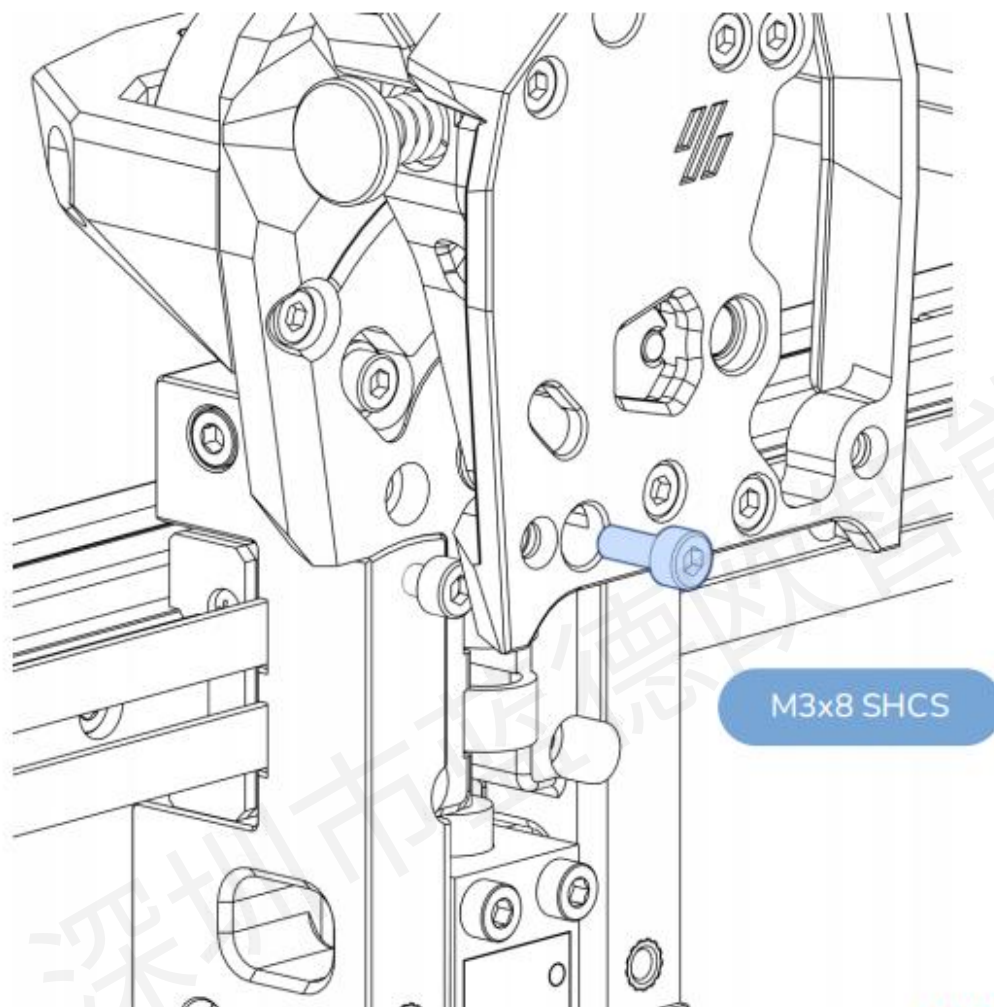


挤出机安装



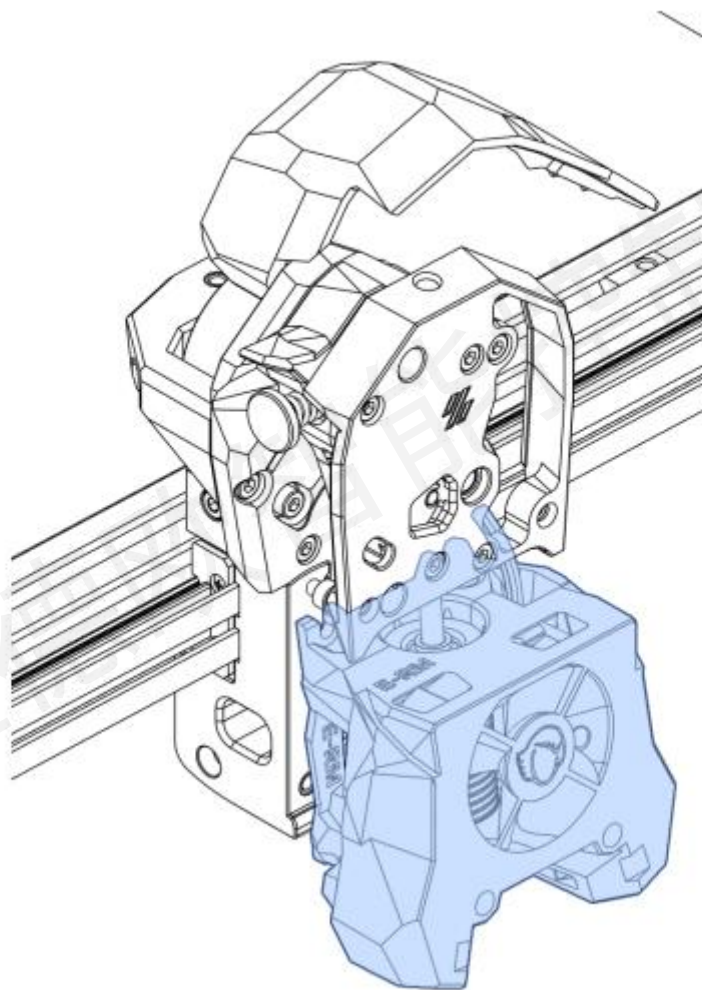
M3x8 SHCS

挤出机安装

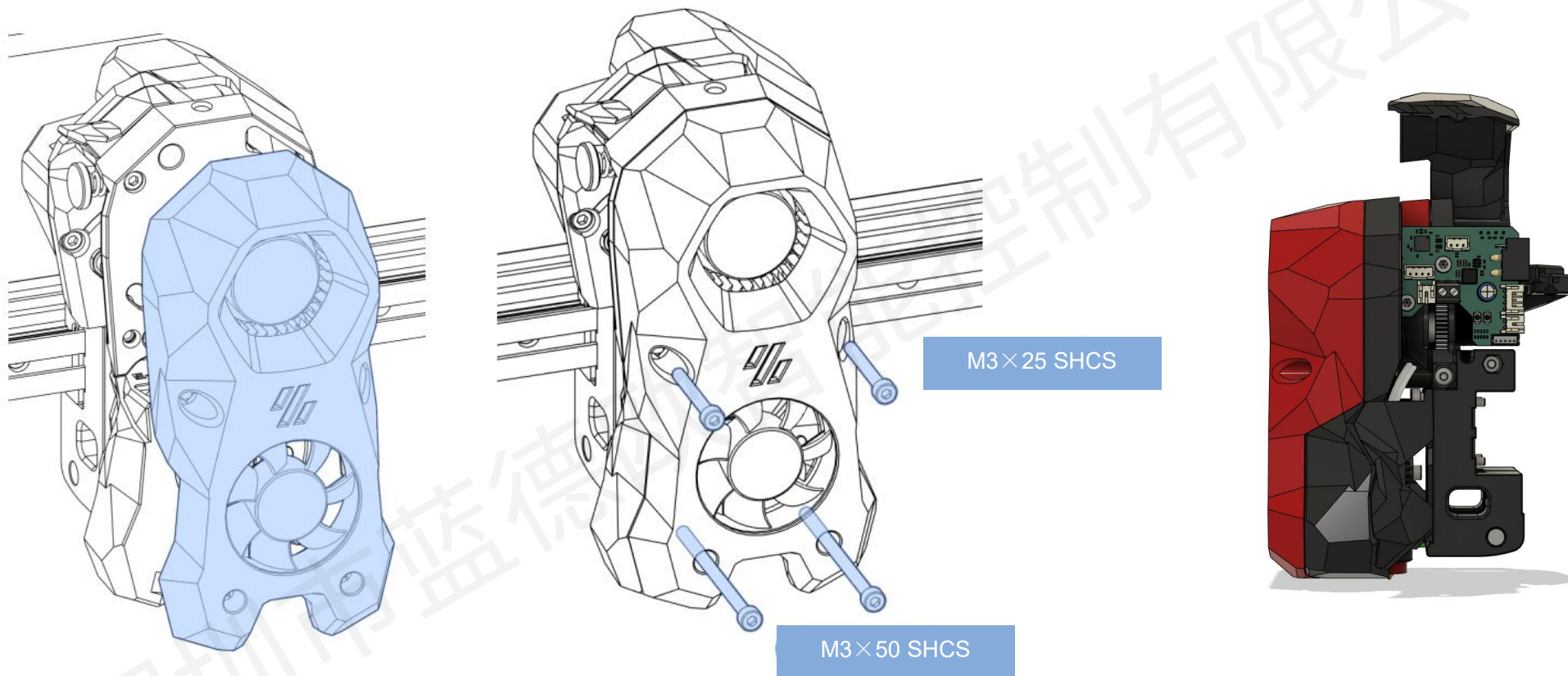


操作孔
可以从挤出机的前面接调整栓。

打印头安装



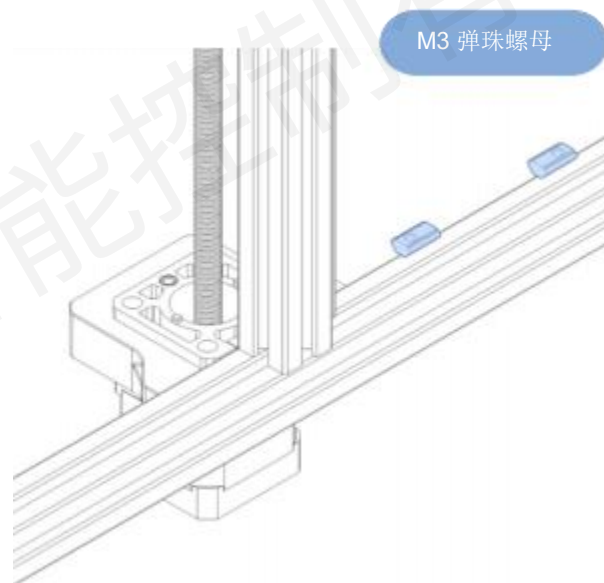
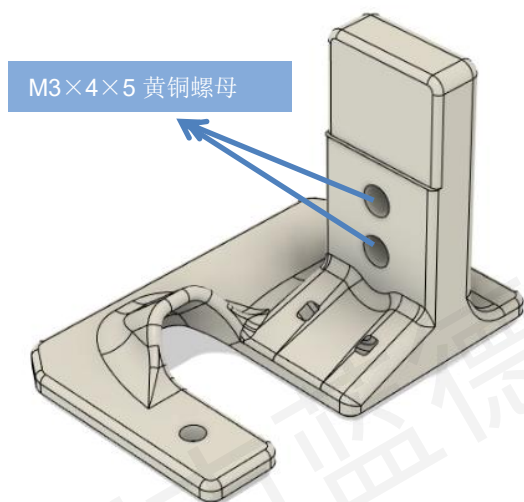
主体安装



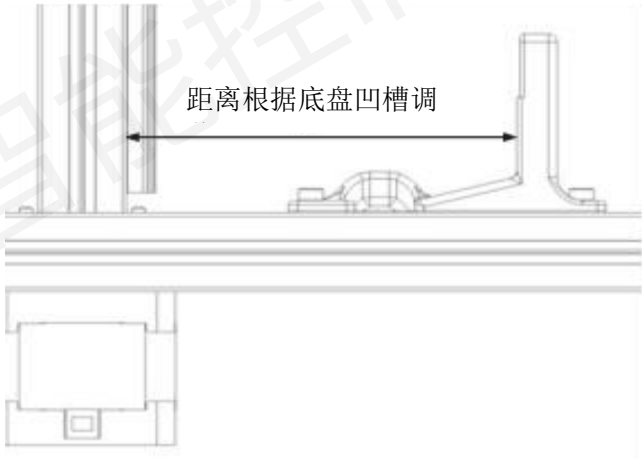
布线准备



Z轴链条固定座



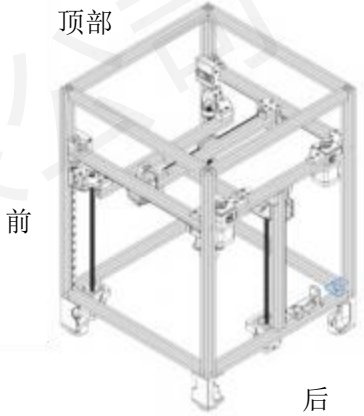
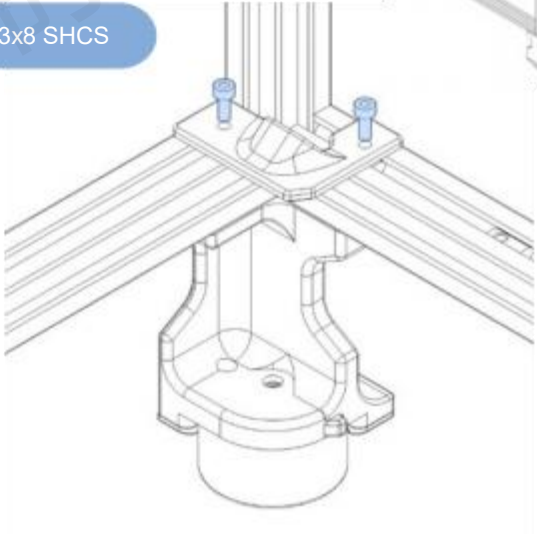
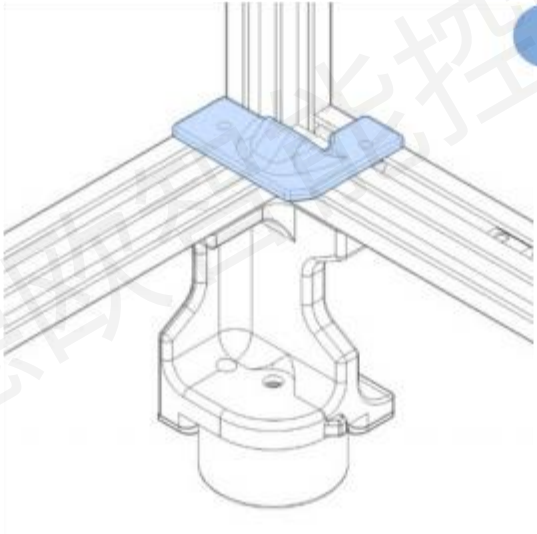
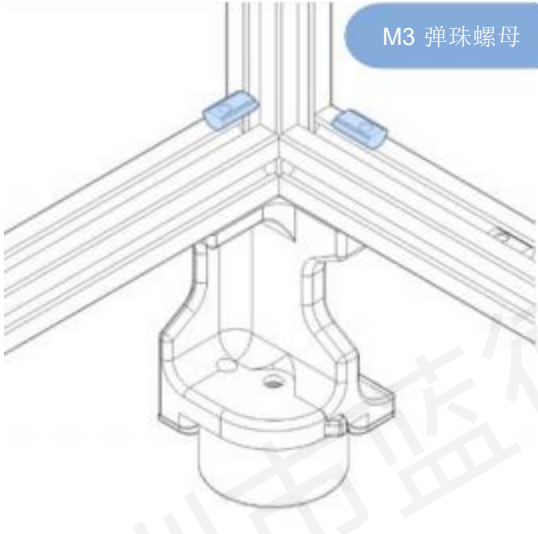
Z轴链条固定座



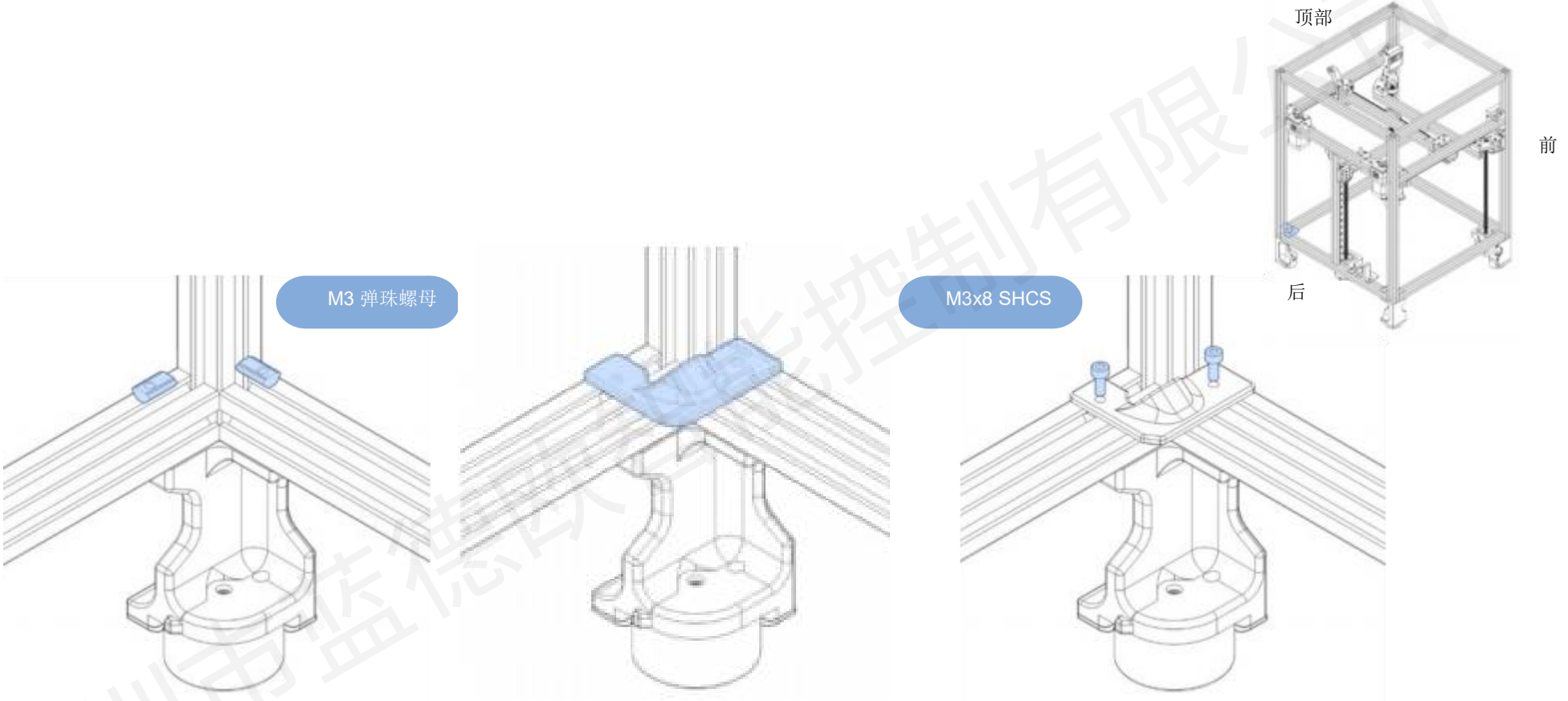
前



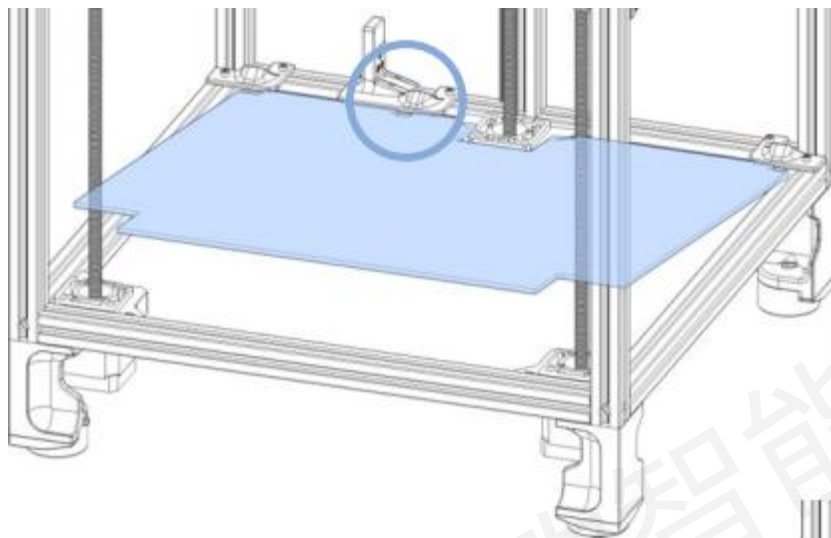
线缆通道



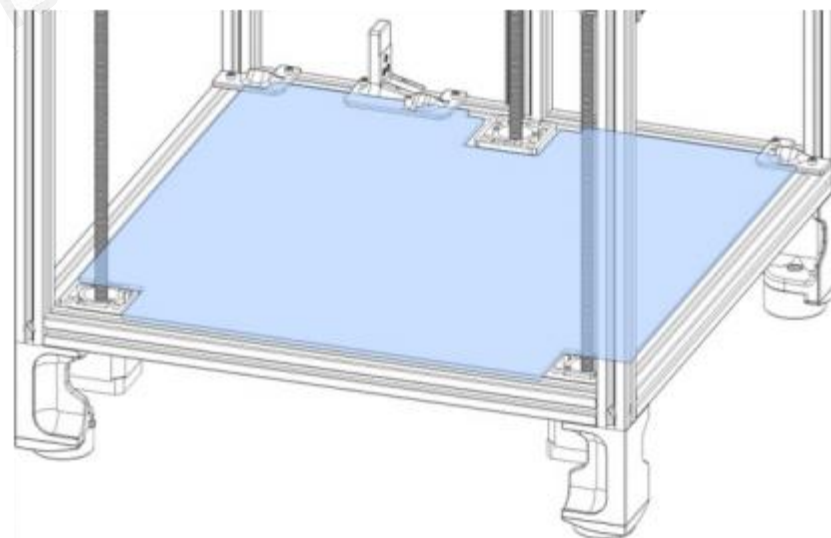
线缆通道



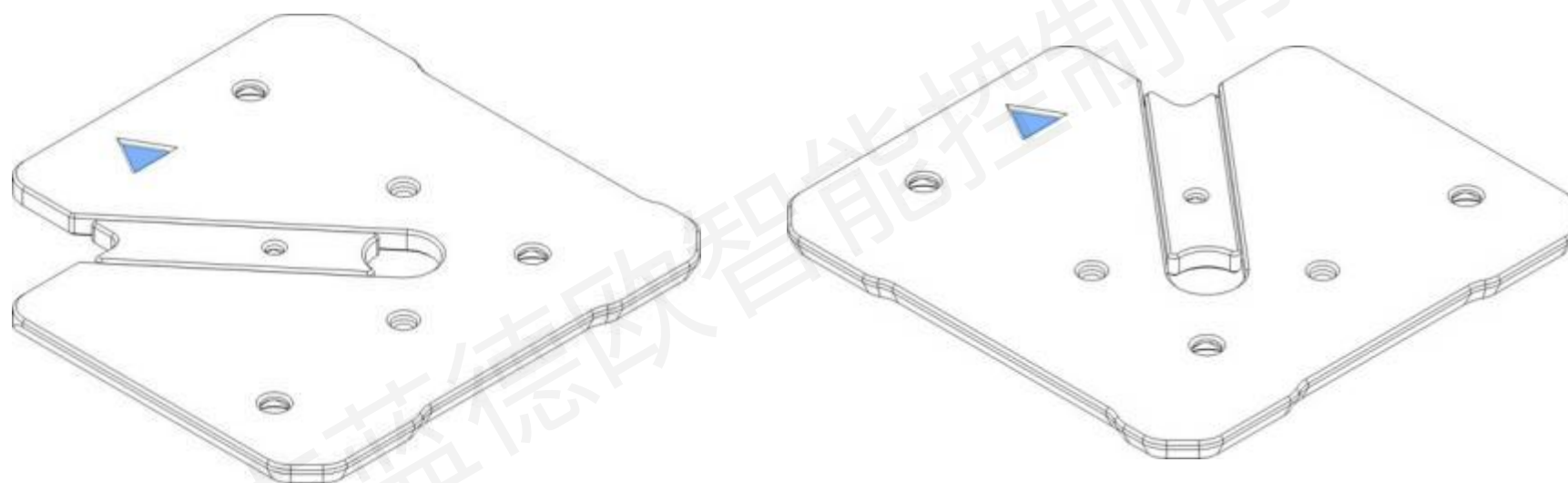
机架底板



底板安装方向：将凹槽对准背面，并与Z链锚点保持一致。

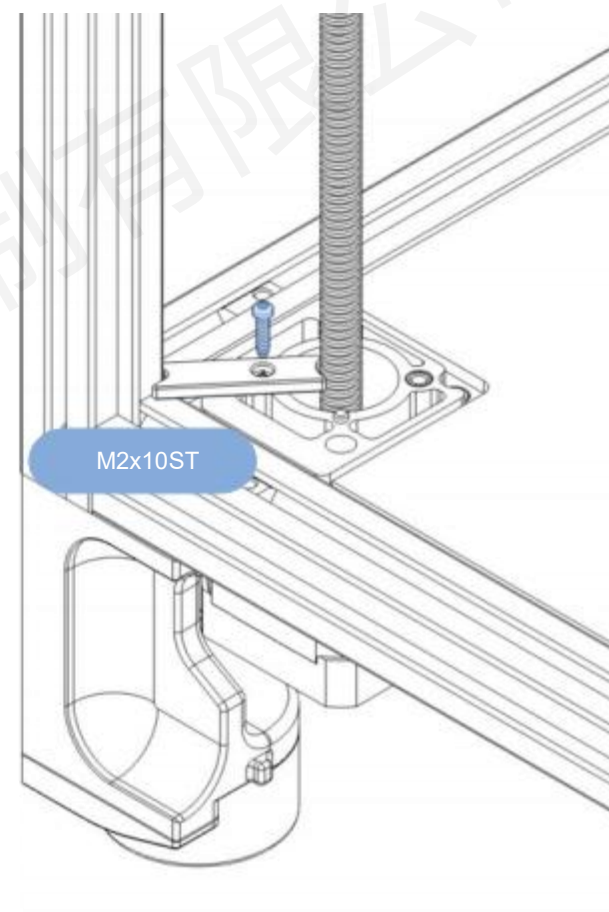
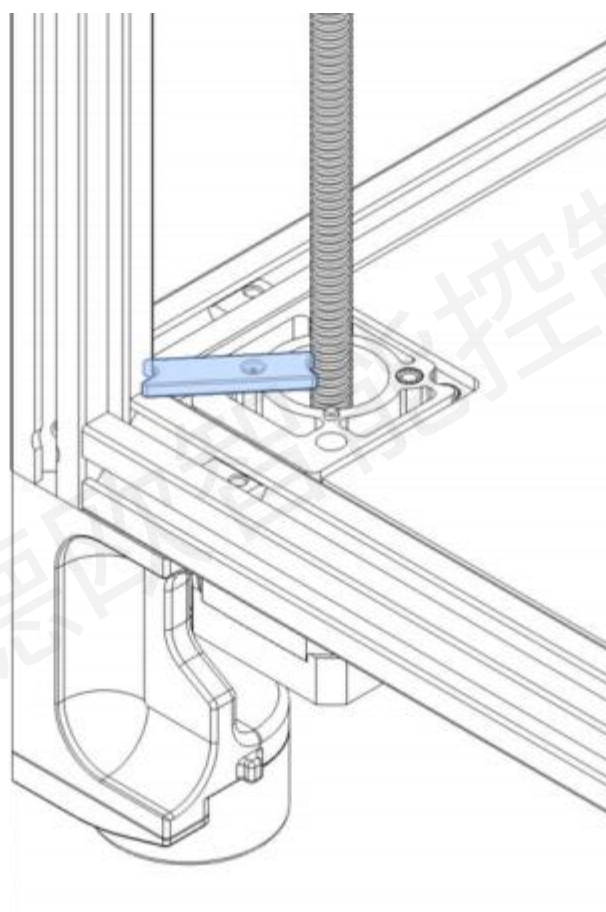
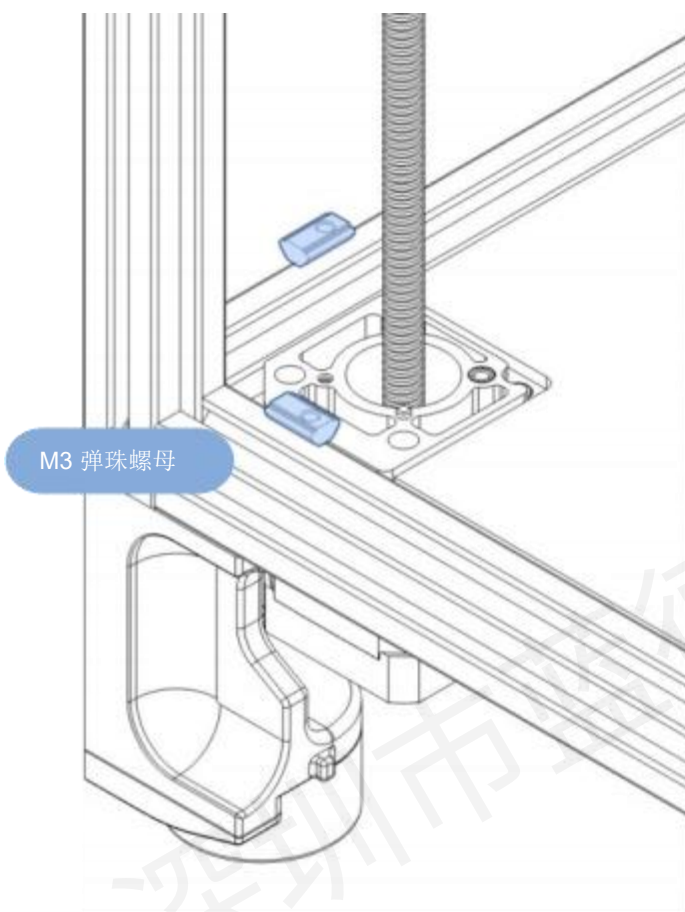


前部电机盖

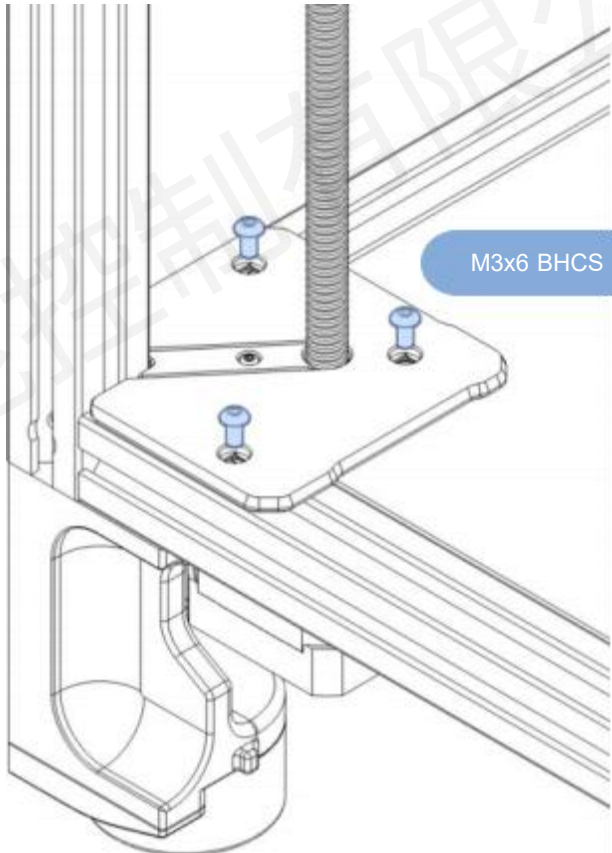
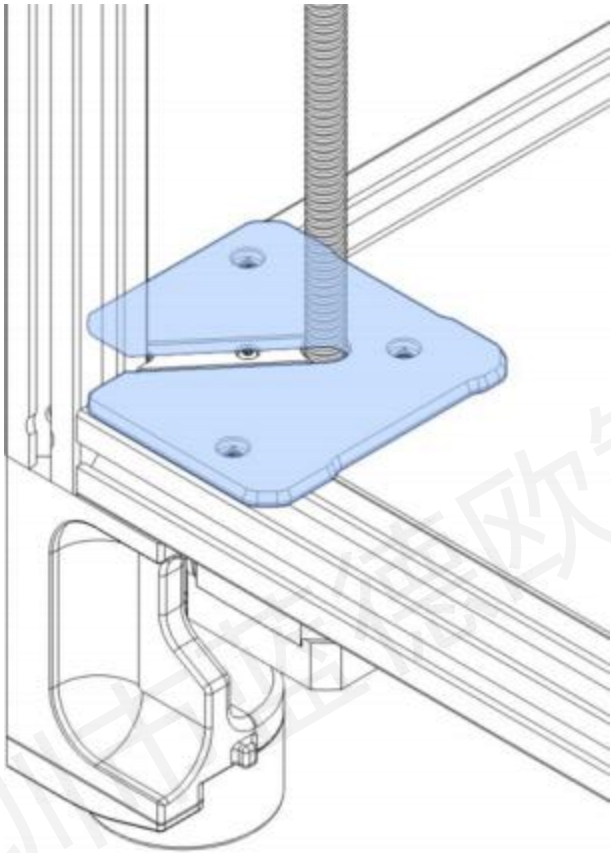


封面方向：电机前盖底部有小型指示箭头，
必须朝向打印机正面。

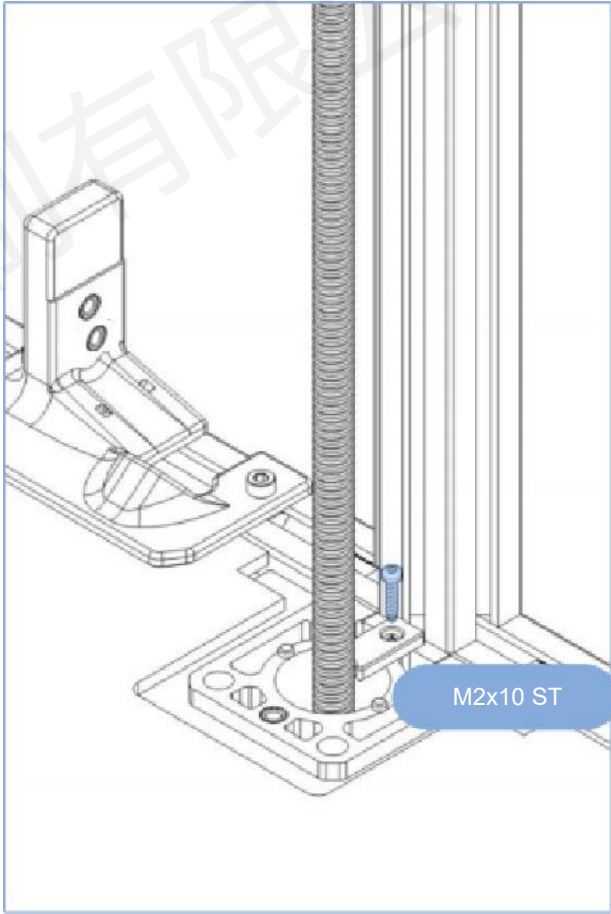
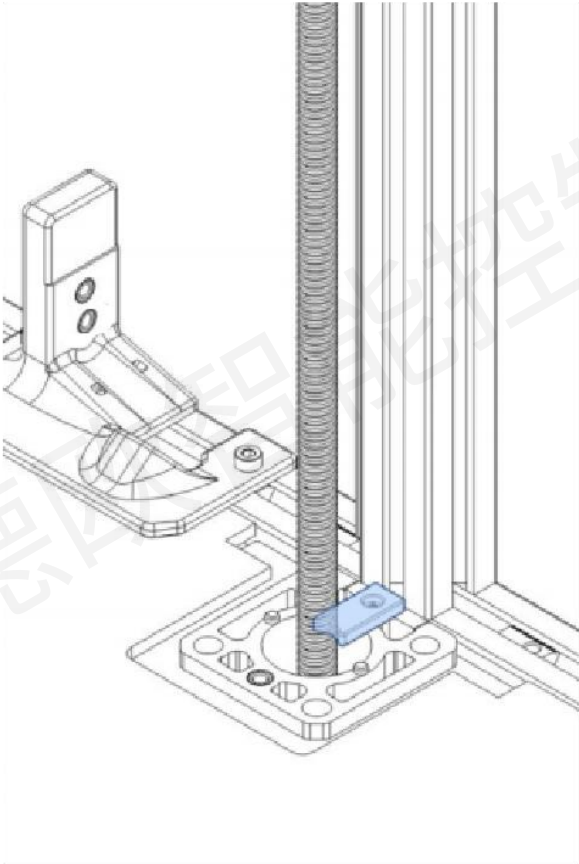
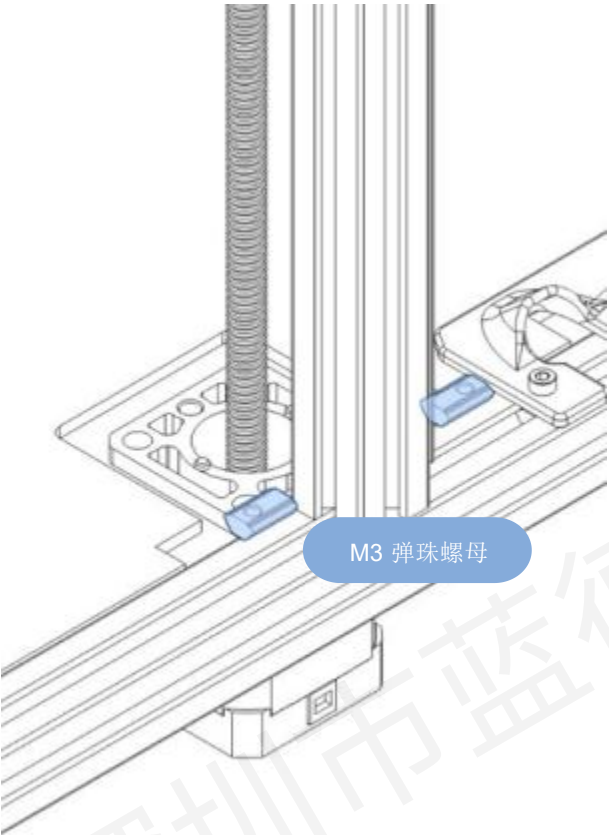
右侧Z电机盖



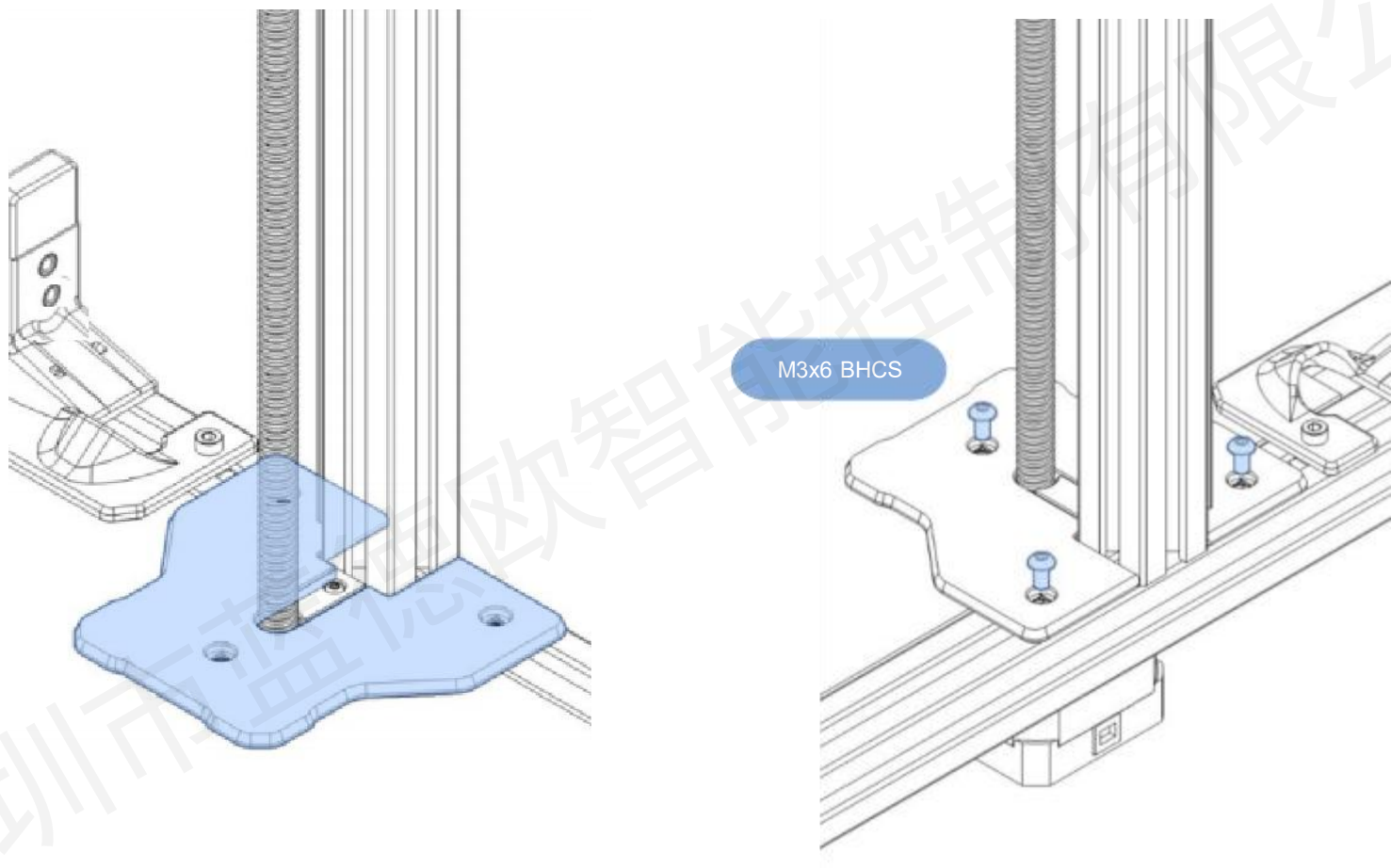
右侧Z电机盖



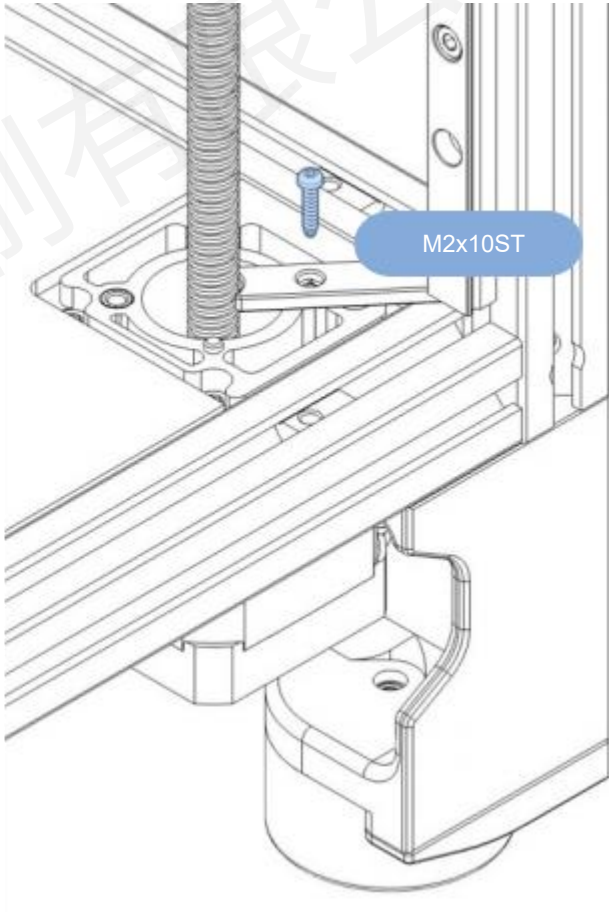
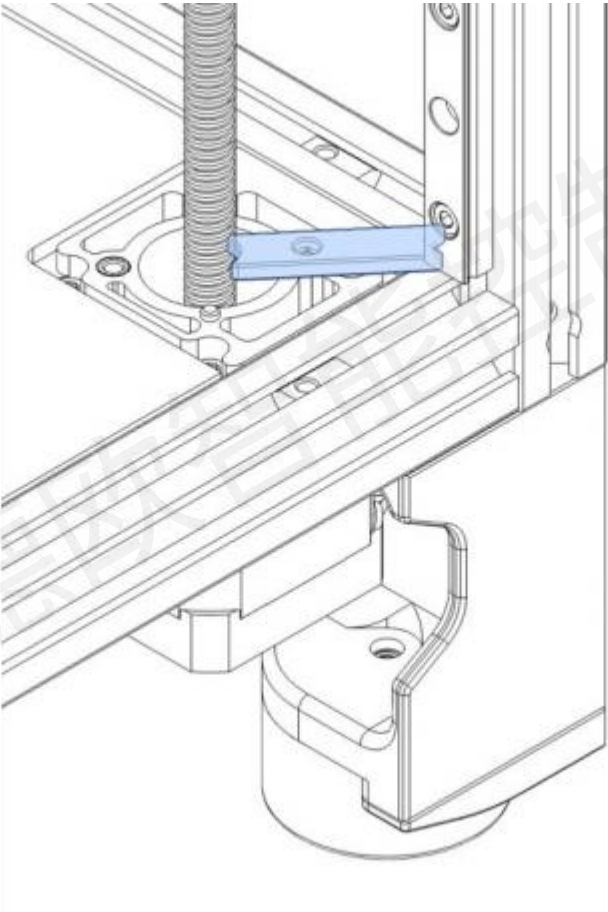
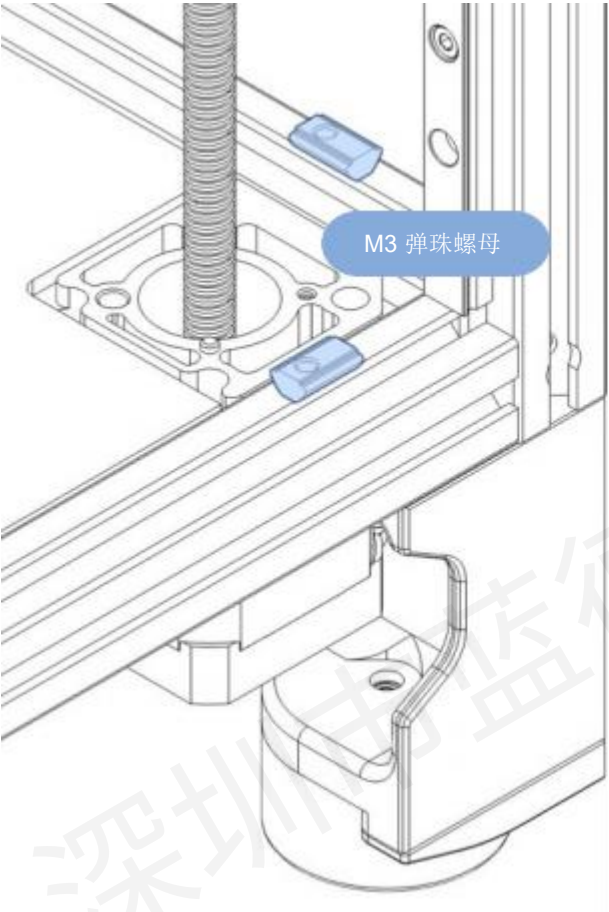
后侧z电机盖



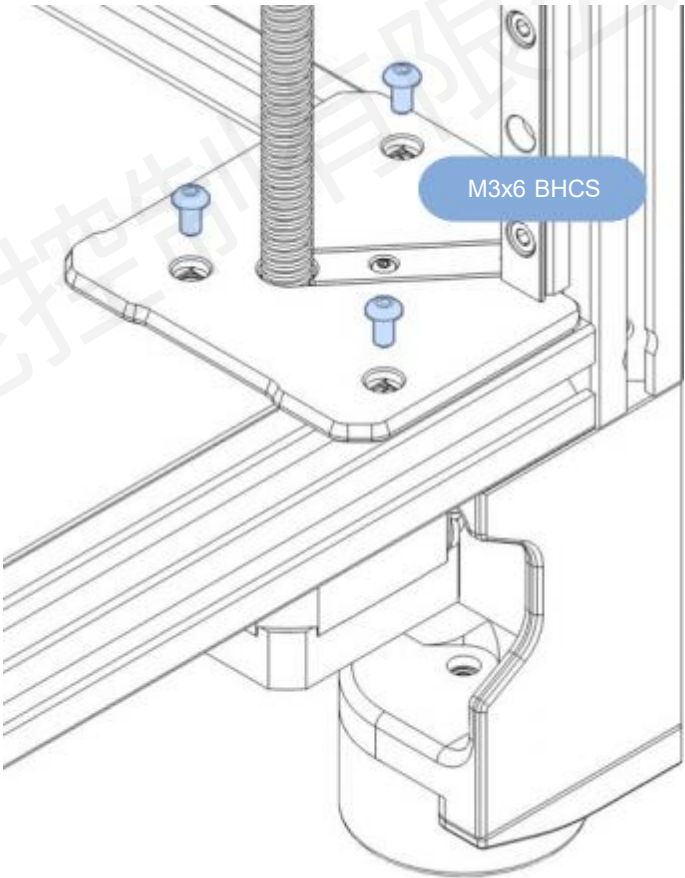
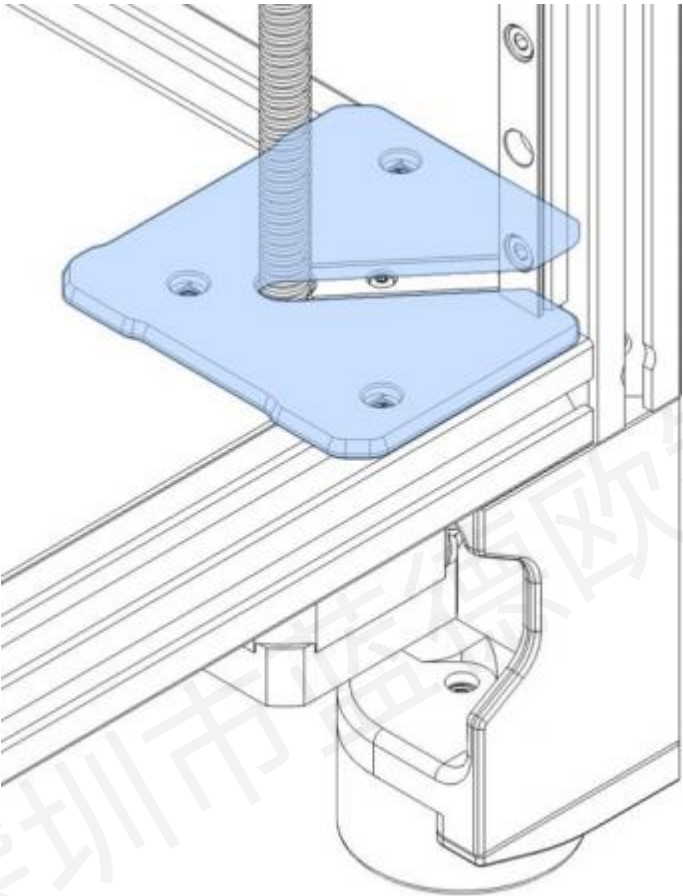
后侧z电机盖



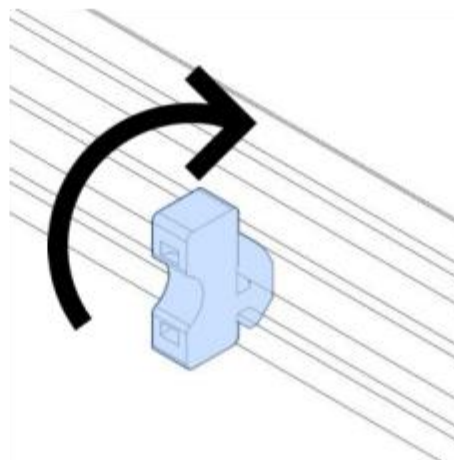
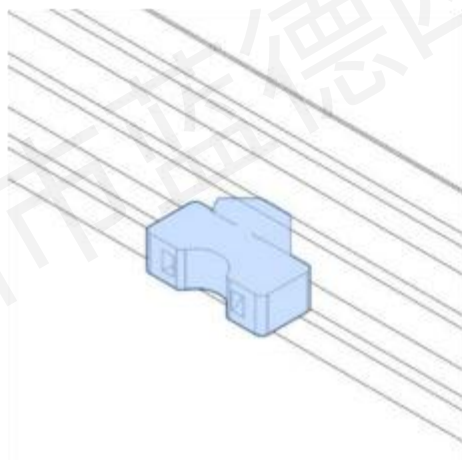
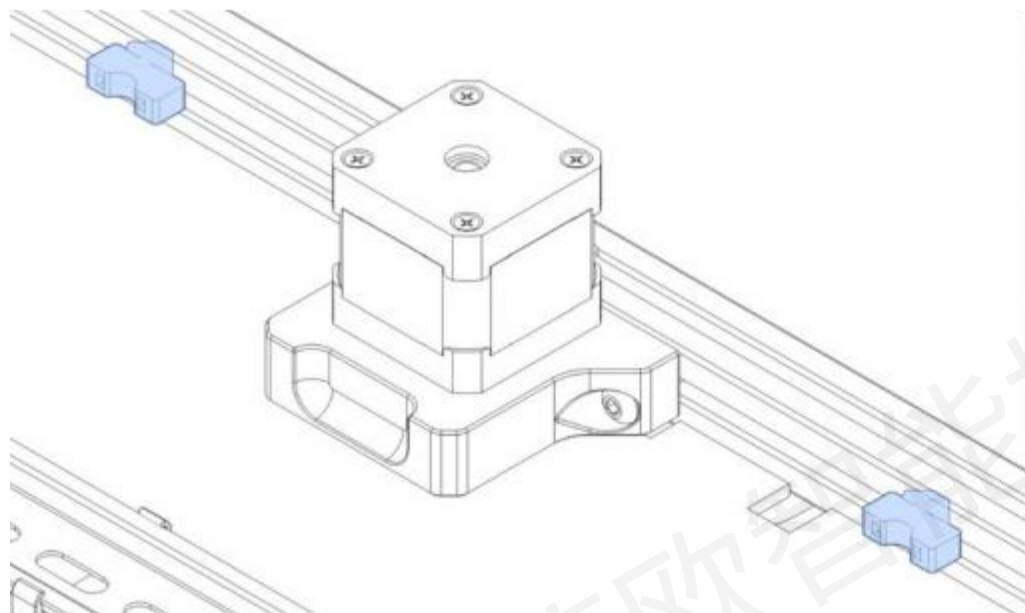
左侧z电机盖



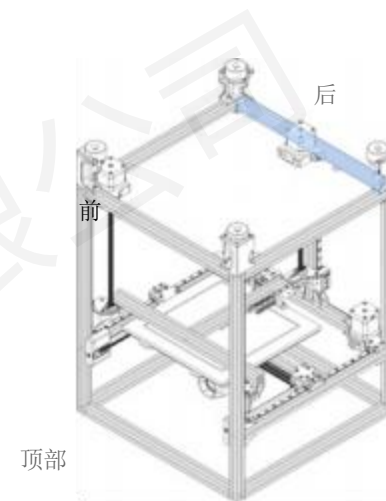
左侧z电机盖



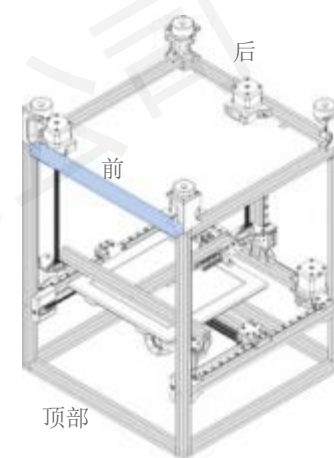
甲板面板



旋转托盘支撑件顺时针旋转90°，使其固定到位。

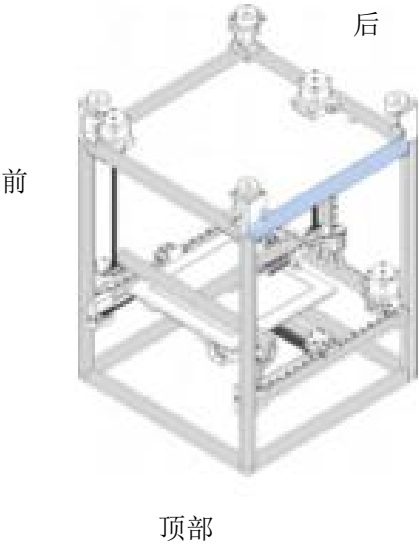
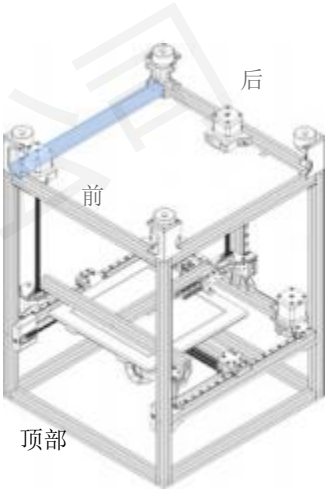


甲板面板

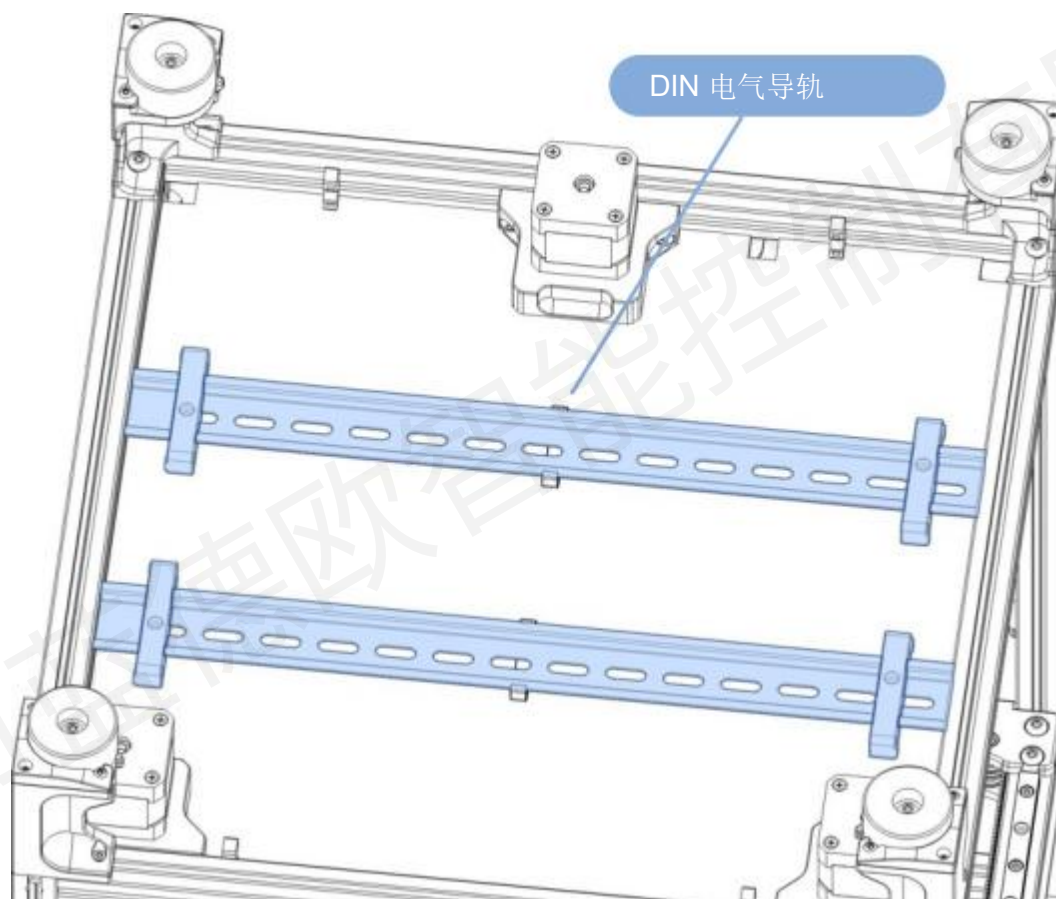


旋转锁定

DIN 导轨



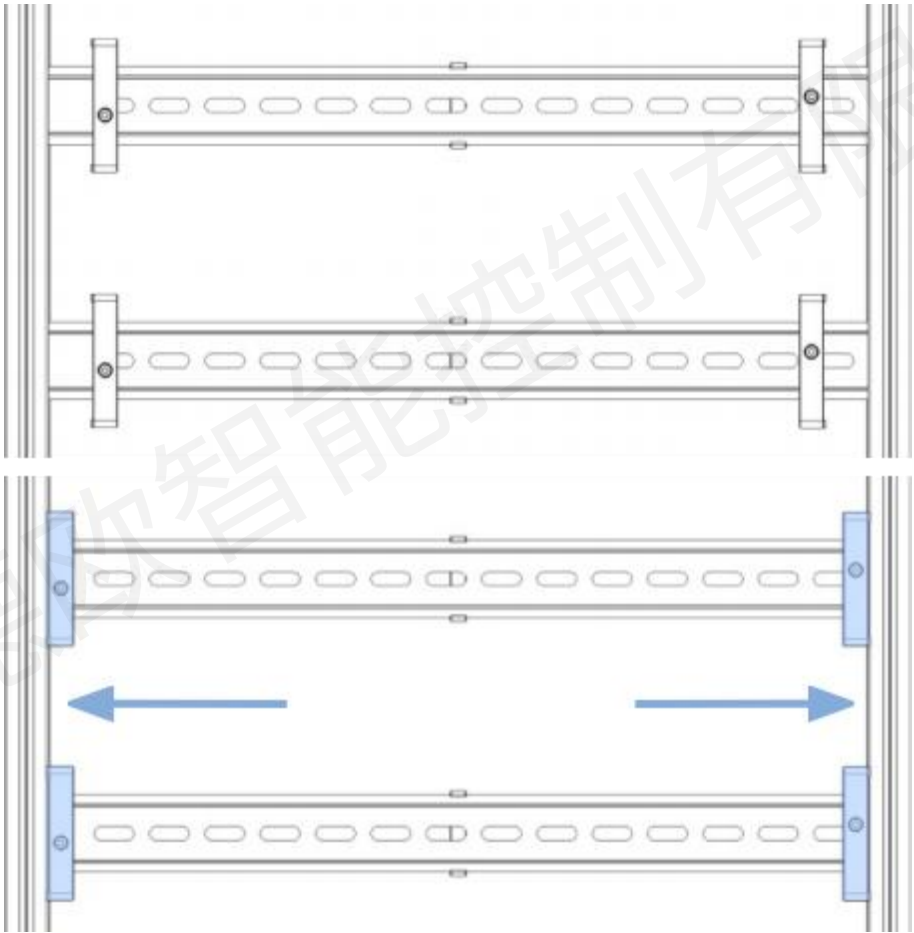
DIN 导轨

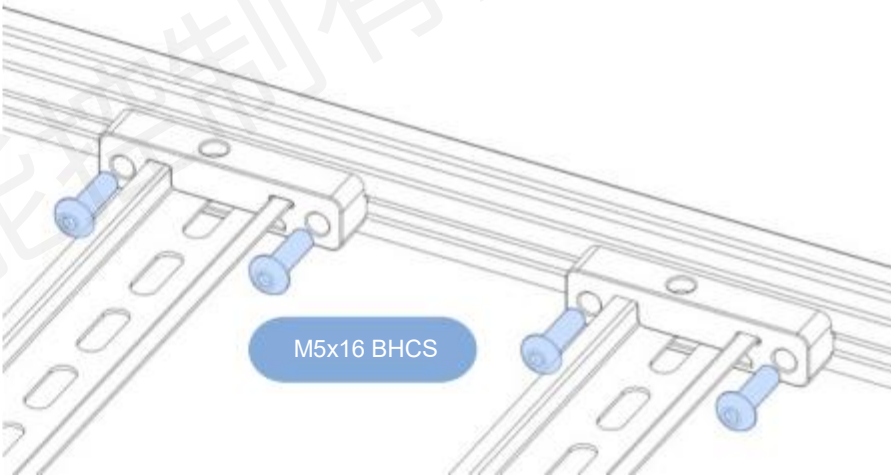
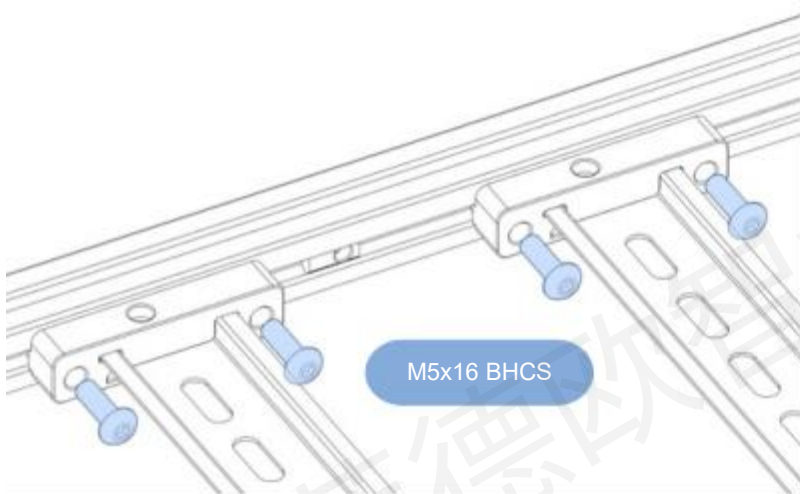


DIN 导轨

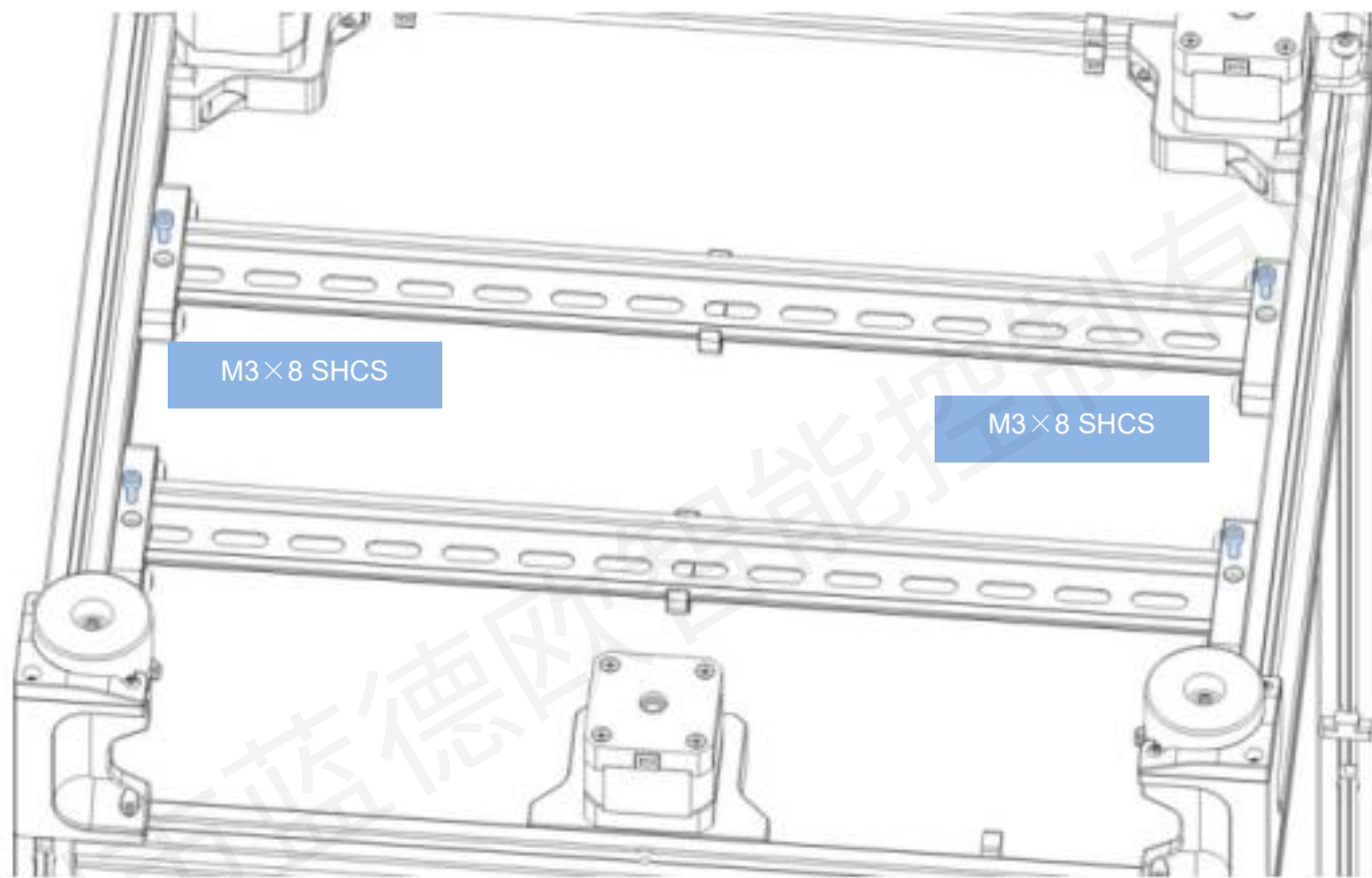
间距 约80mm

滑动到位 一直到型材

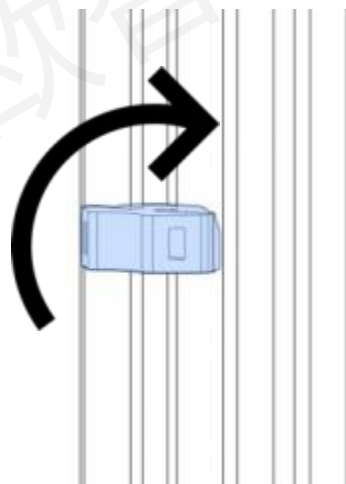
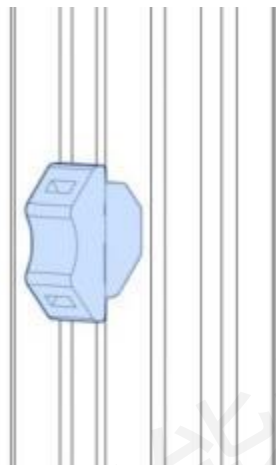
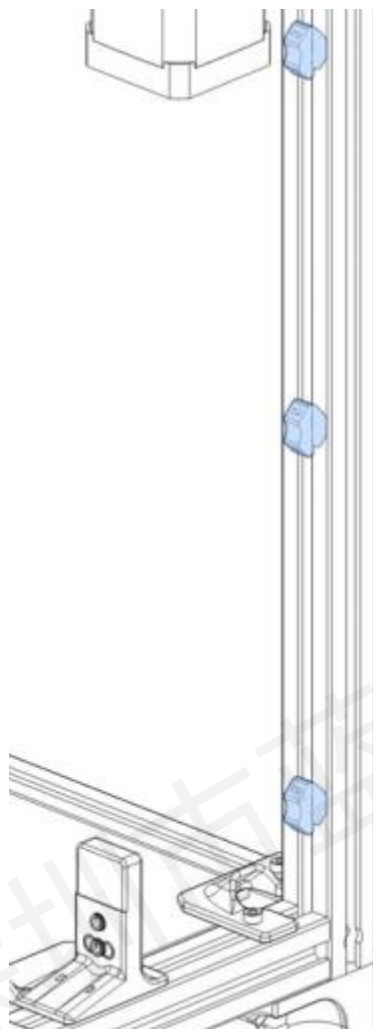




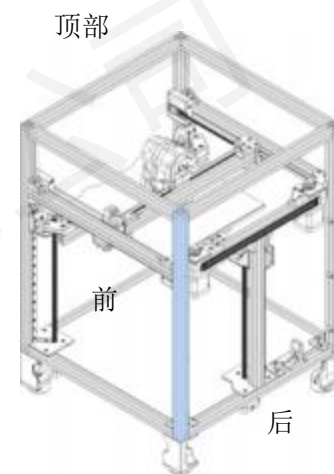
DIN 导轨



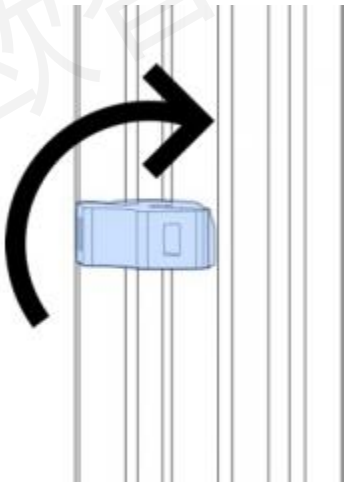
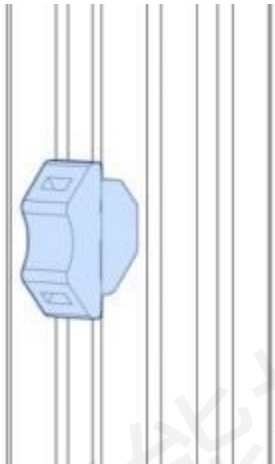
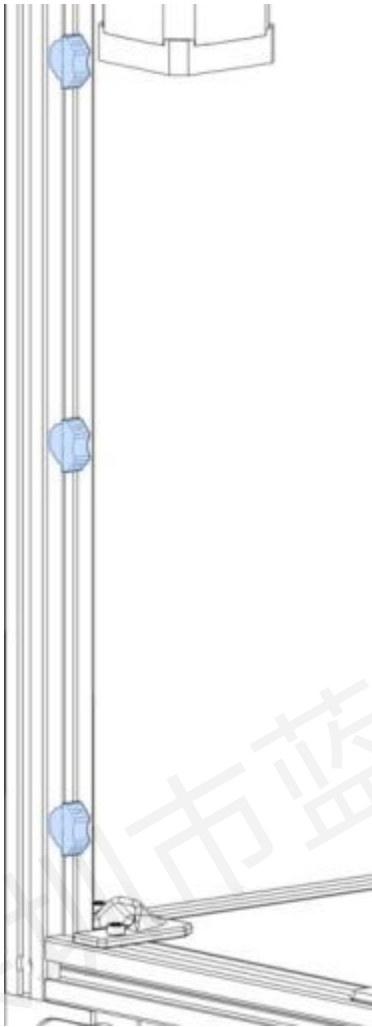
不要过度拧紧，螺丝用于防止DIN导轨滑动，直接螺纹嵌入塑料中。



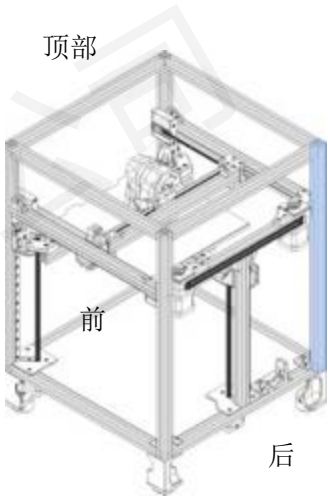
旋转锁定



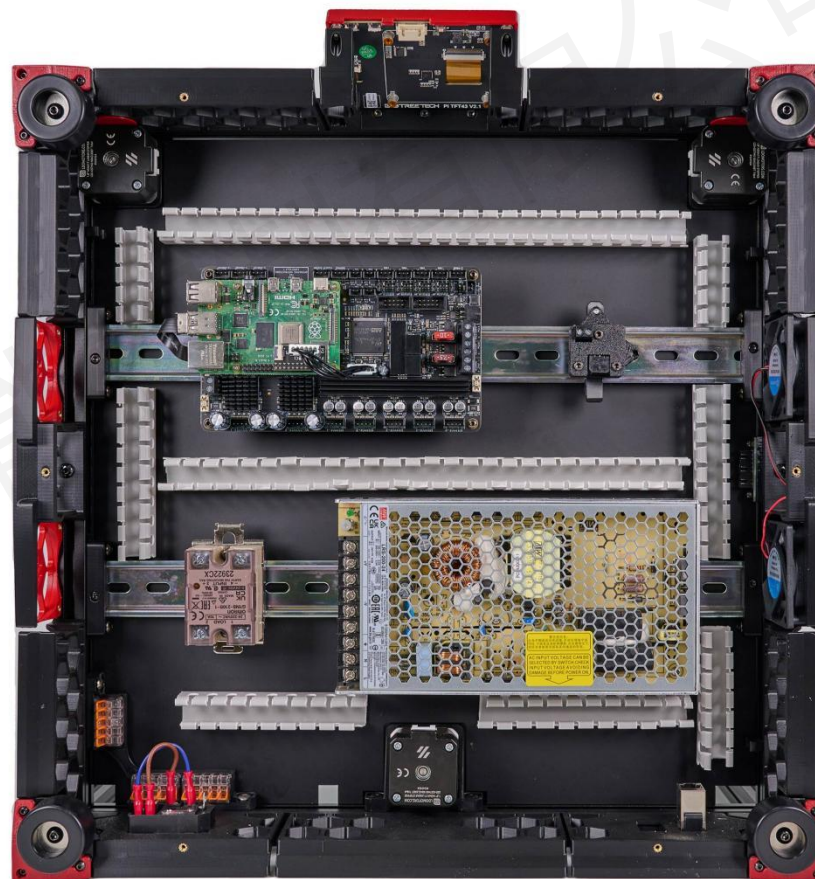
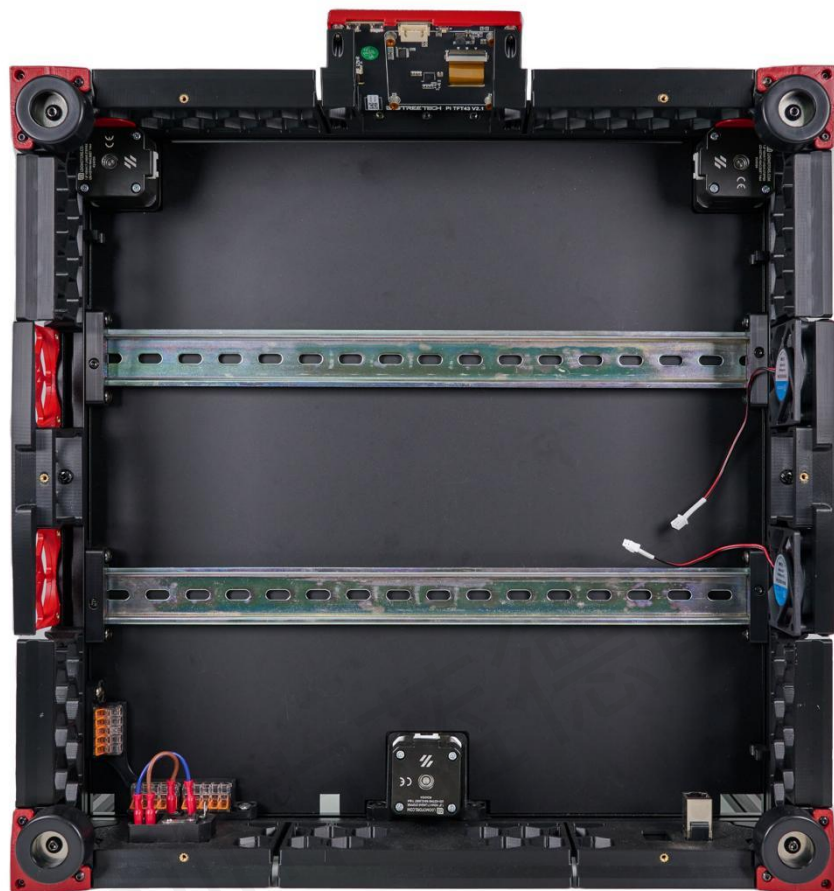
扎带环



旋转锁定

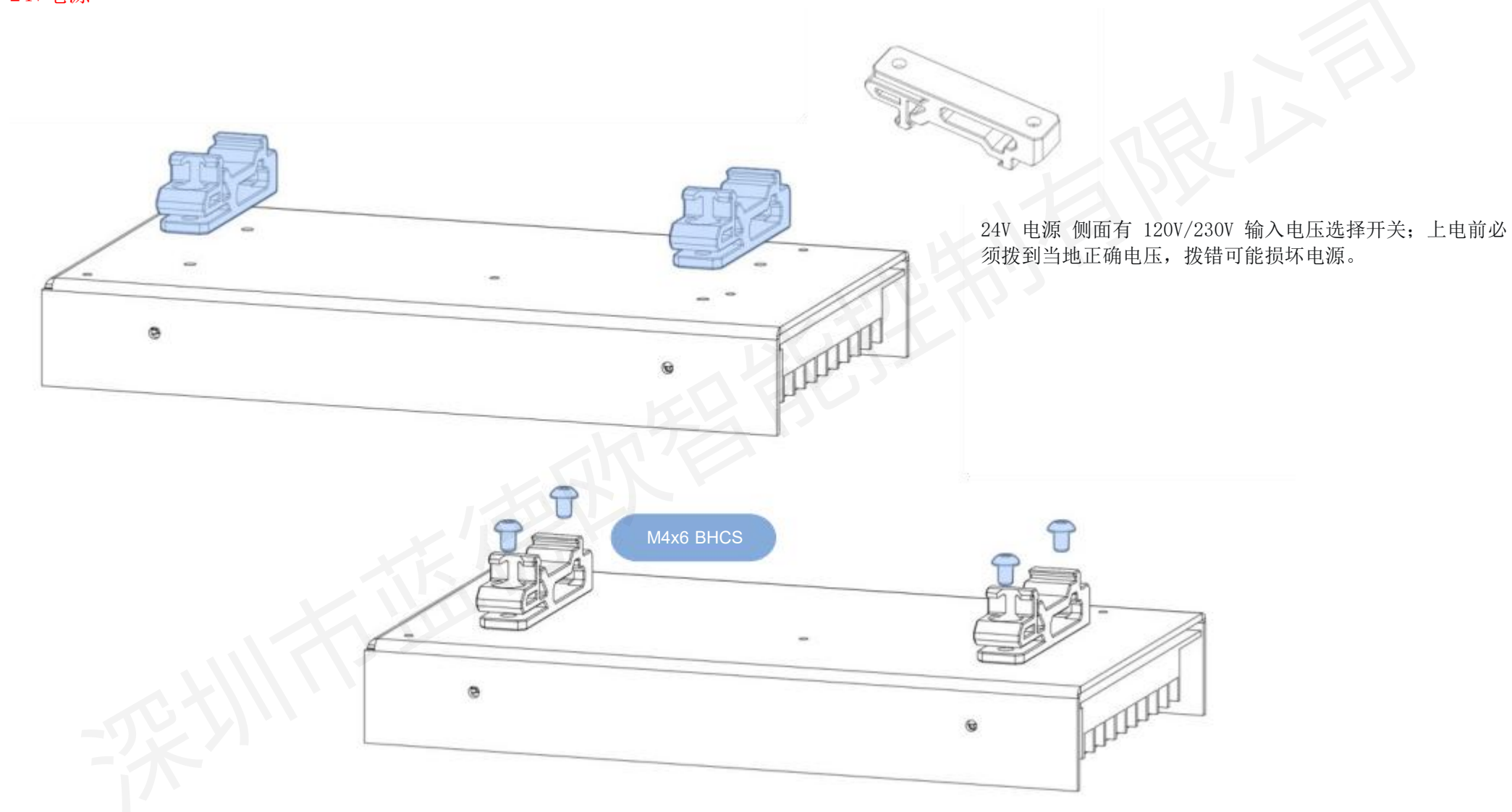


电子仓

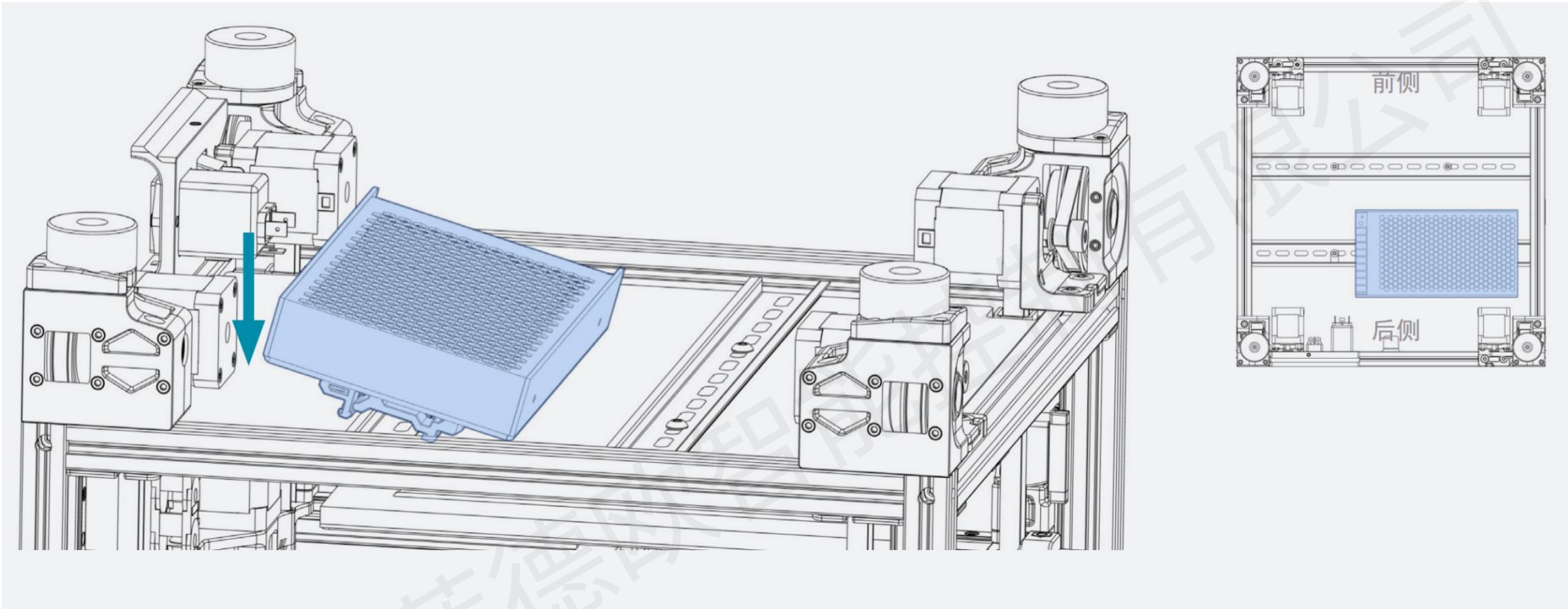


DIN 电气导轨横向安装先按原图摆放由 词温给每规经幼装上塑末在底板上；底部线槽应位于孔位下方
先按原图摆放电子器件，位置不需要一次精确到位，后续可微调。

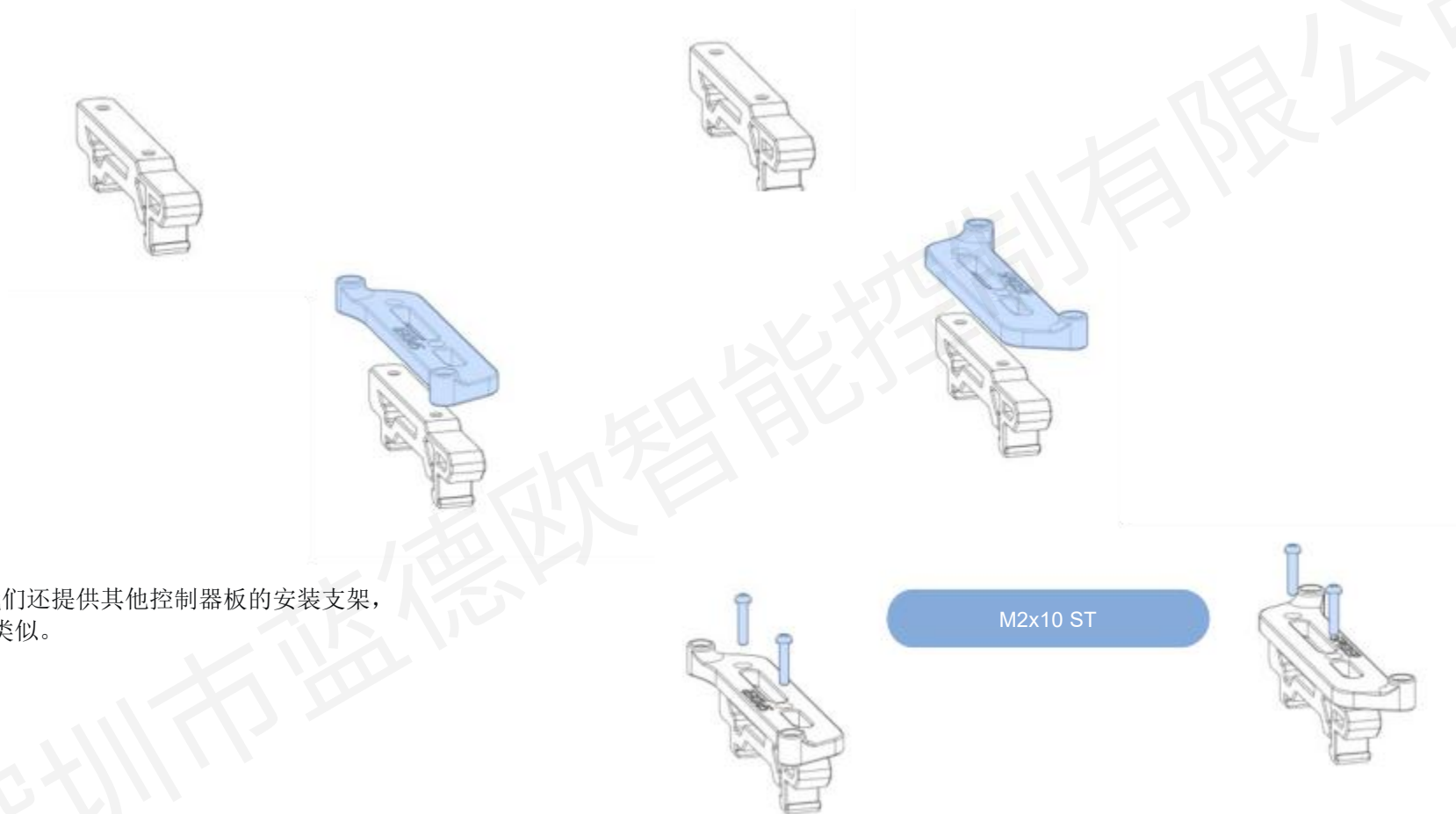
24V电源



24V电源



控制板和树莓派

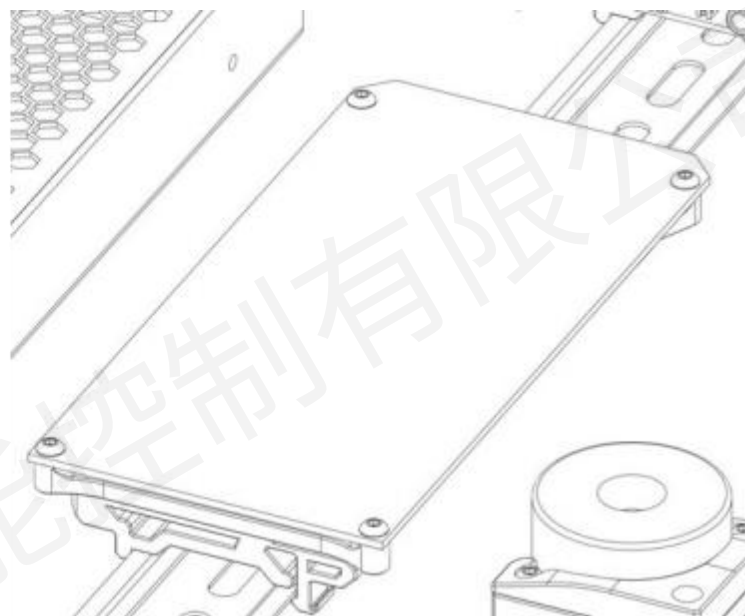
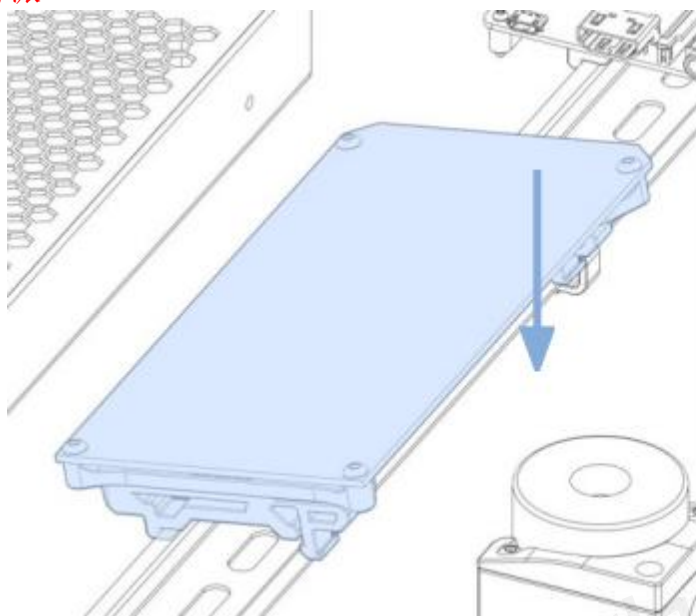


可选安装支架 我们还提供其他控制器板的安装支架，其组装方式与之类似。

控制板和树莓派



控制板和树莓派

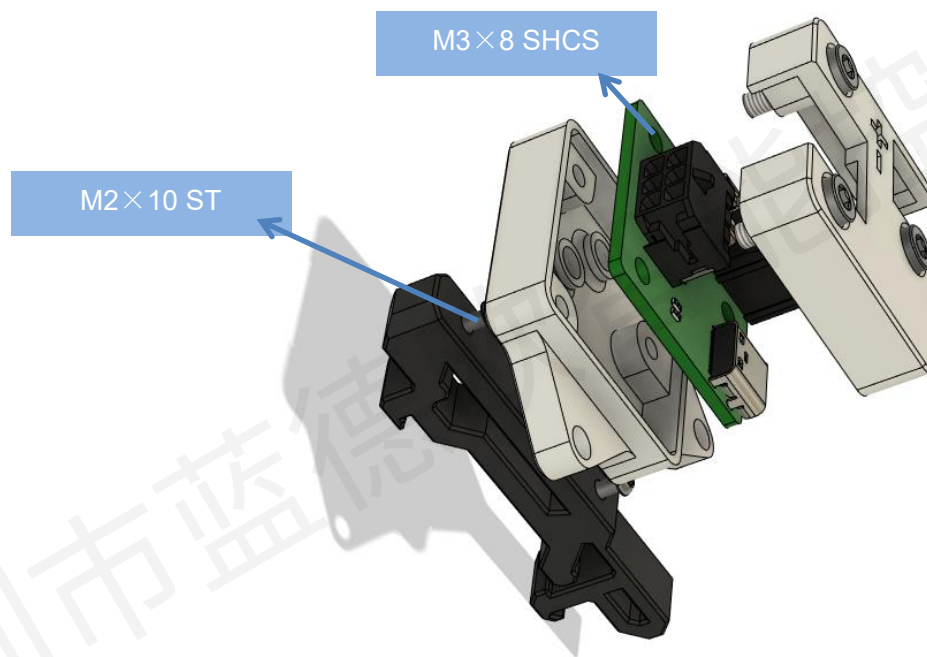


USB PCB板安装

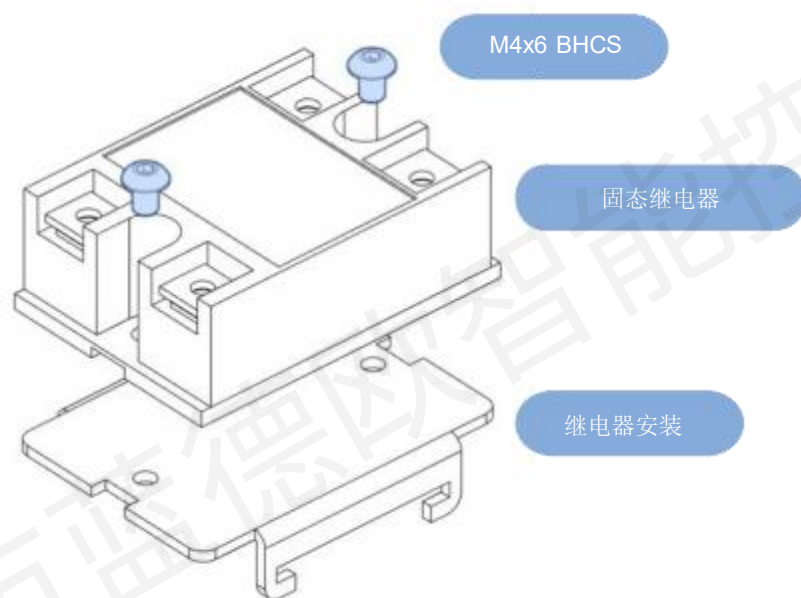
USB转接板

用M2x10自攻螺丝将US8转接器家座固定在导轨卡扣上

用M3×8 SHCS 将USB转接板和盖板固定在底座上, 不要拧得太紧, 螺纹直接拧入中



SSR



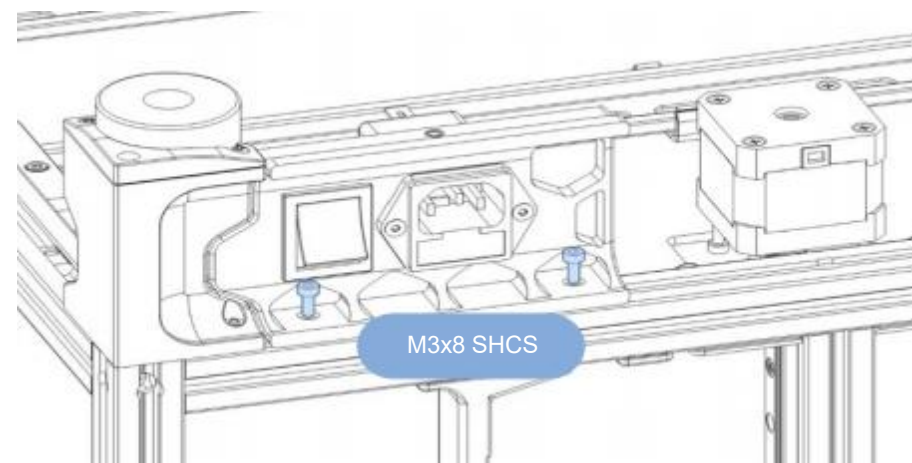
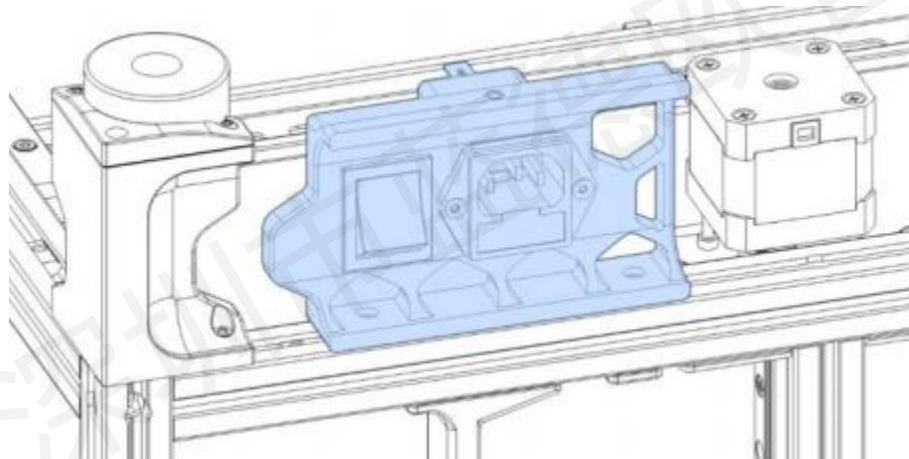
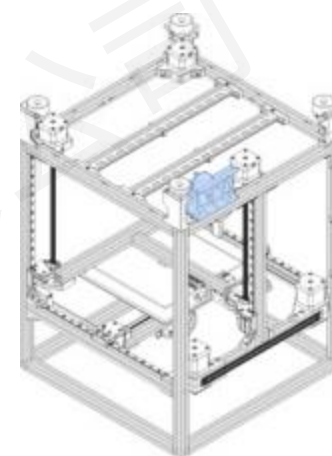
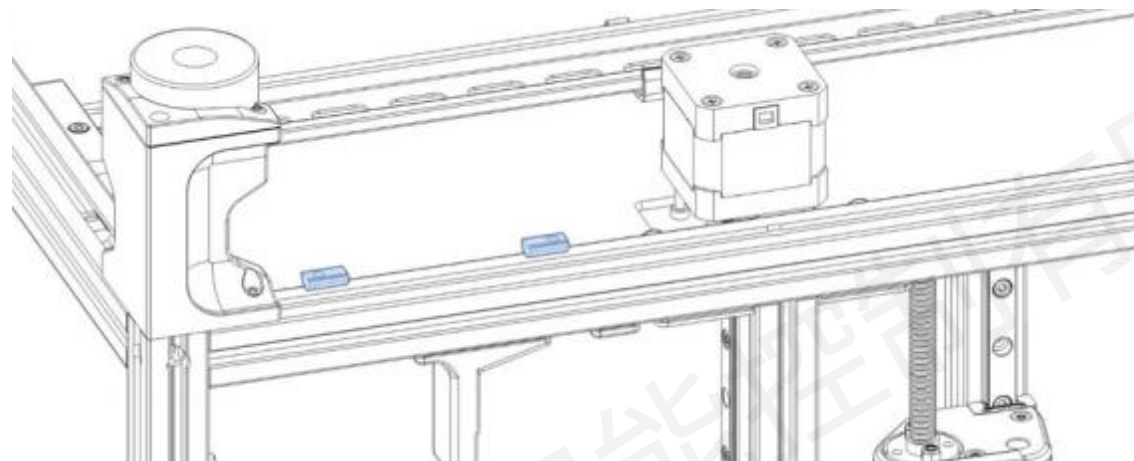
SSR安装座是现成的部件，您可以在零件堆中
寻找一个金属支架。没有印刷的安装座。

电源接口

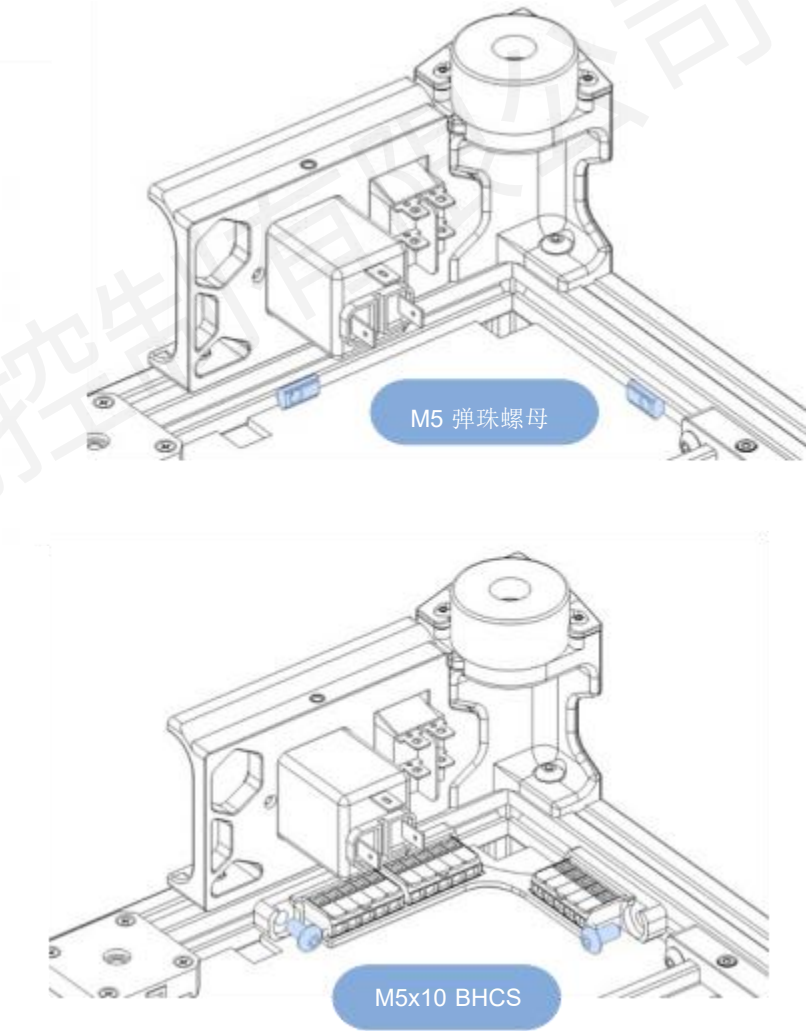
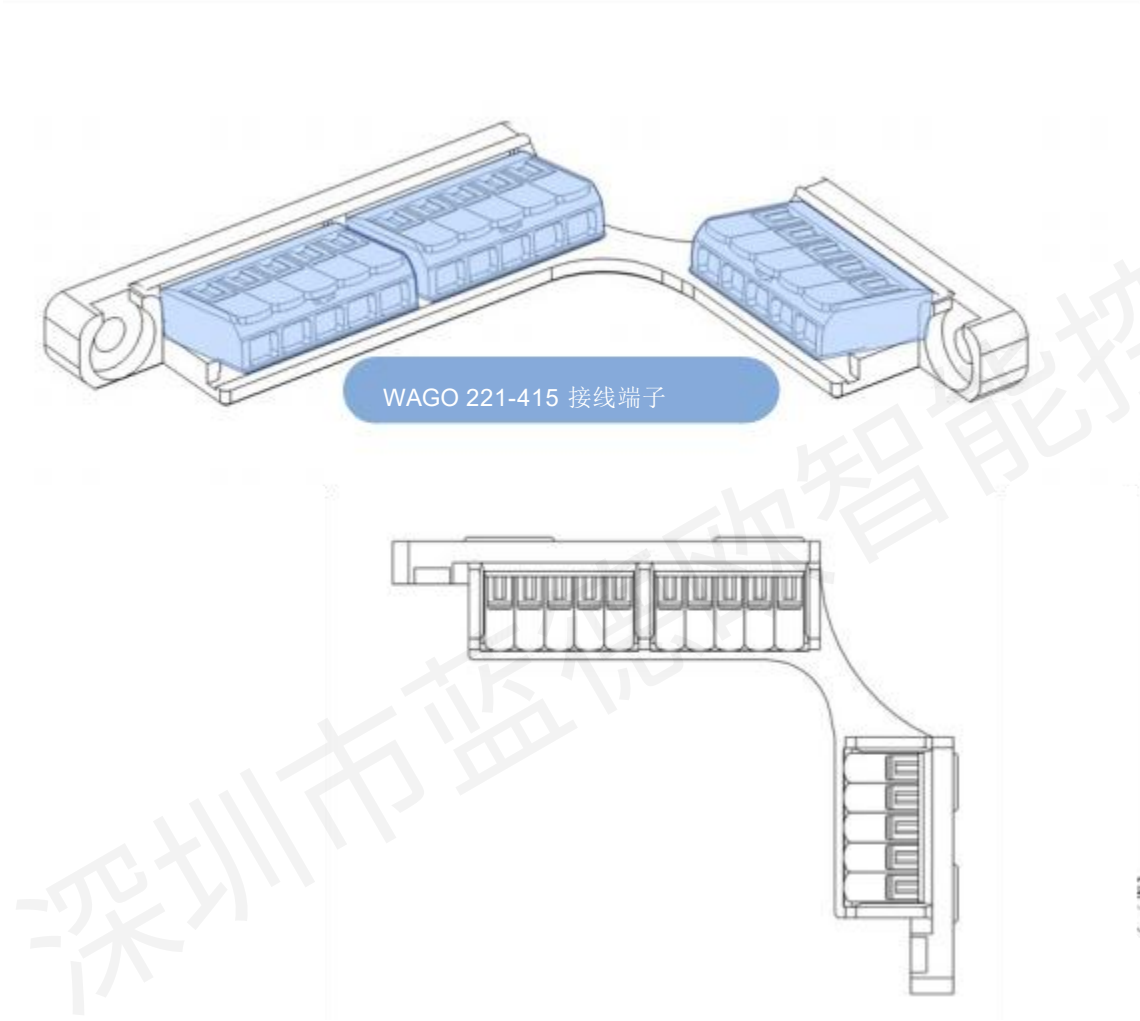


LD0套件中 AC 插座与开关是一体的

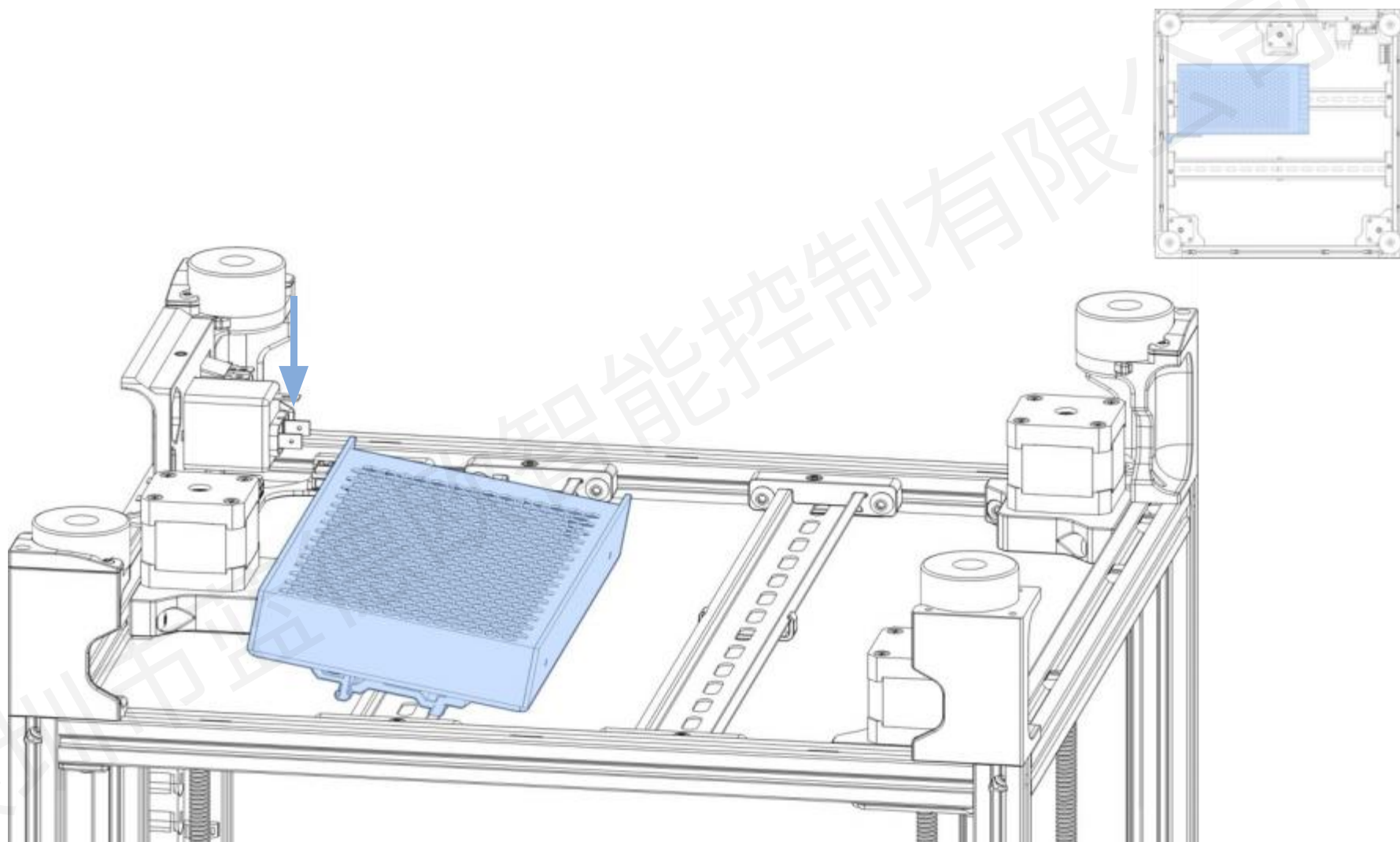
电源接口



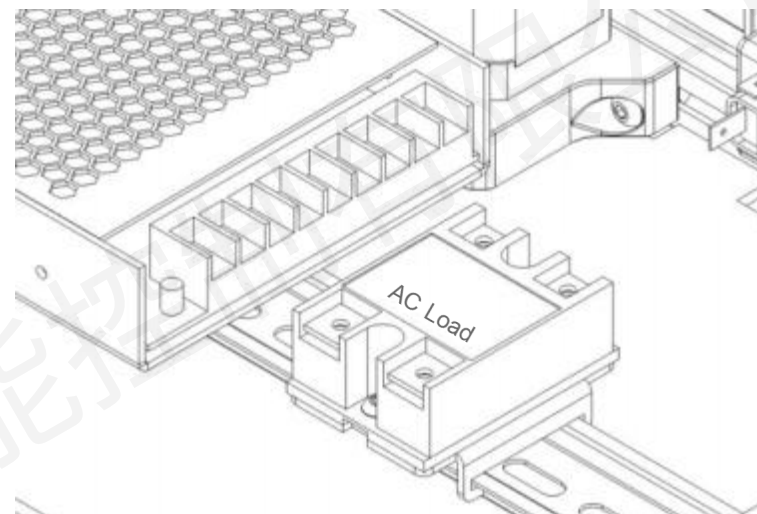
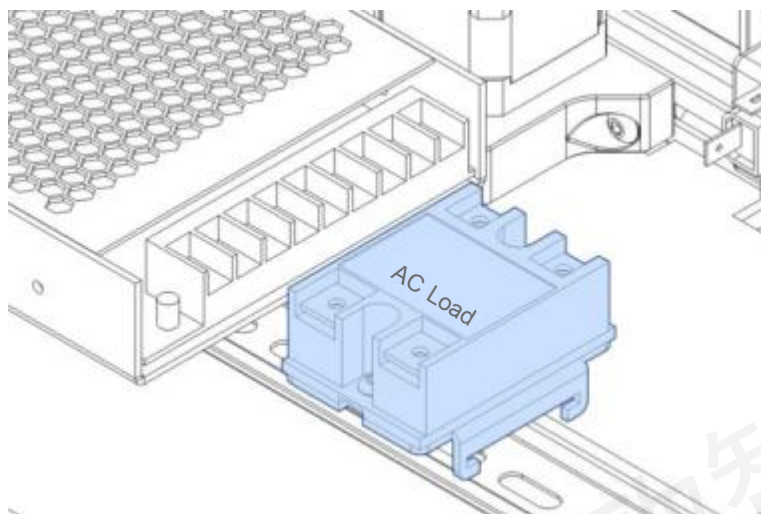
WAGO 接线端子



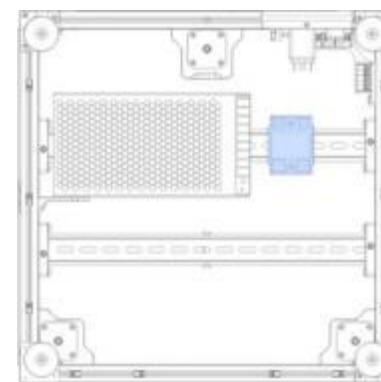
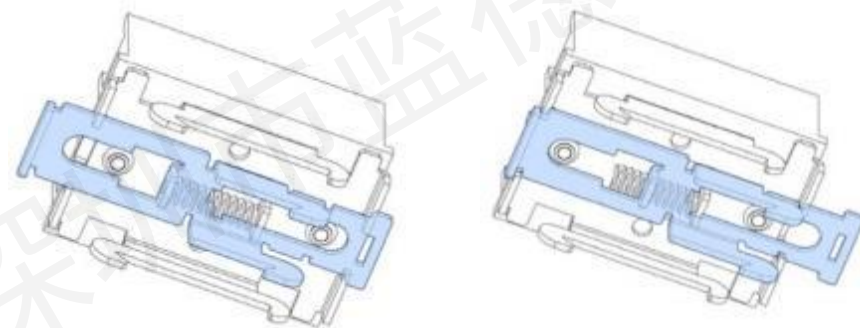
电源安装



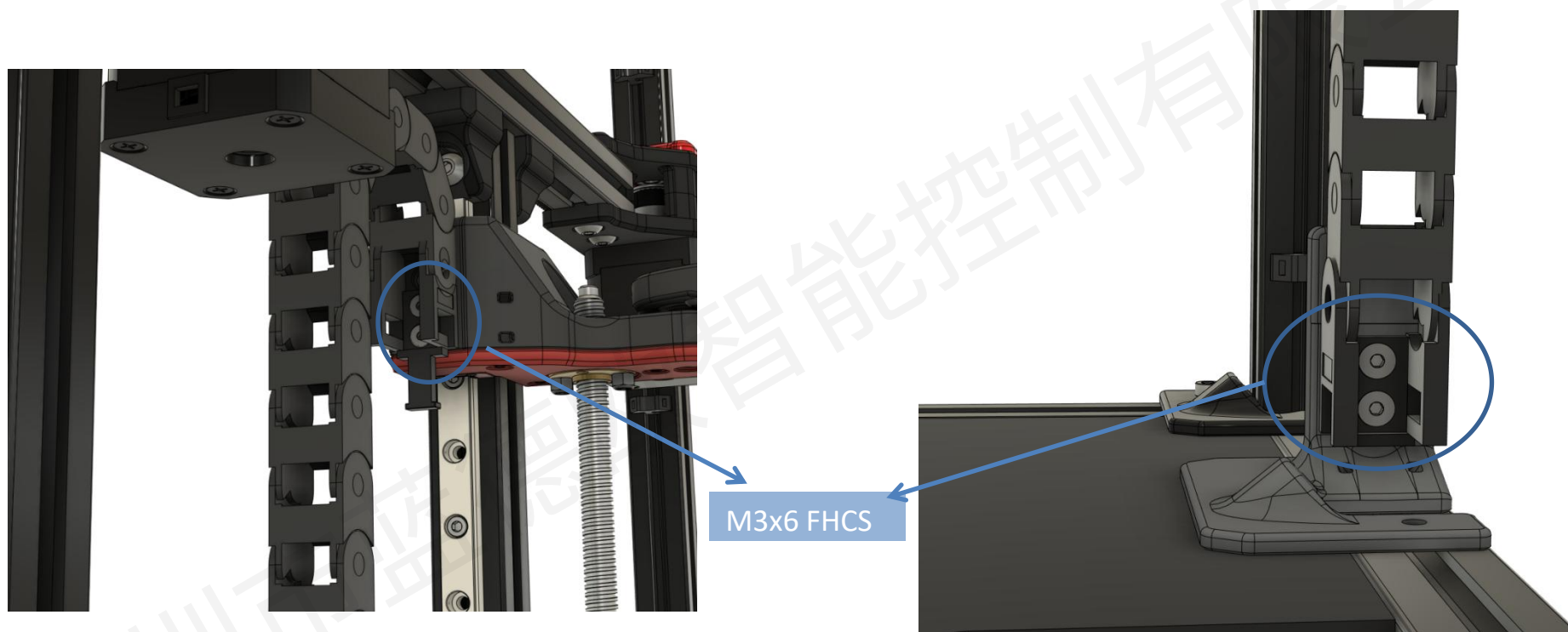
SSR 安装



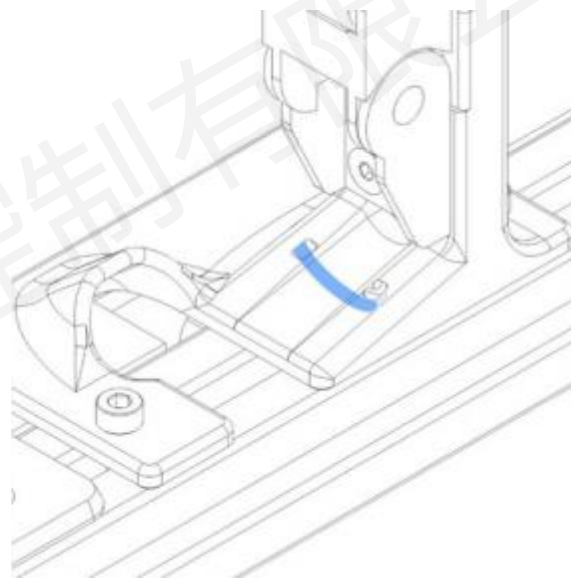
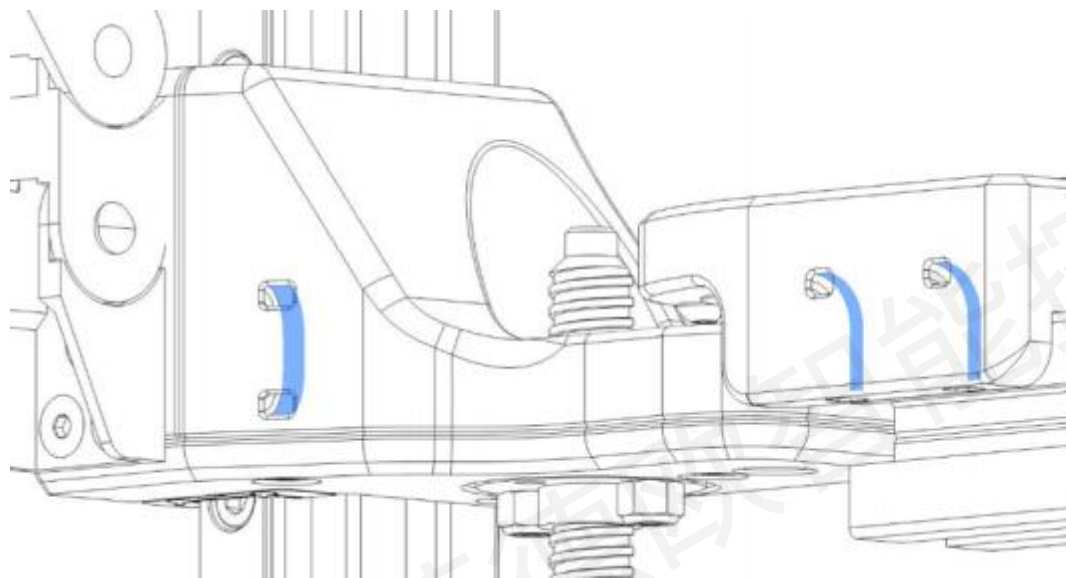
弹簧锁扣 使用平头螺丝刀将锁扣打开，它会自动锁定。
释放锁扣时要小心，它会弹回原位，请注意手指安全。



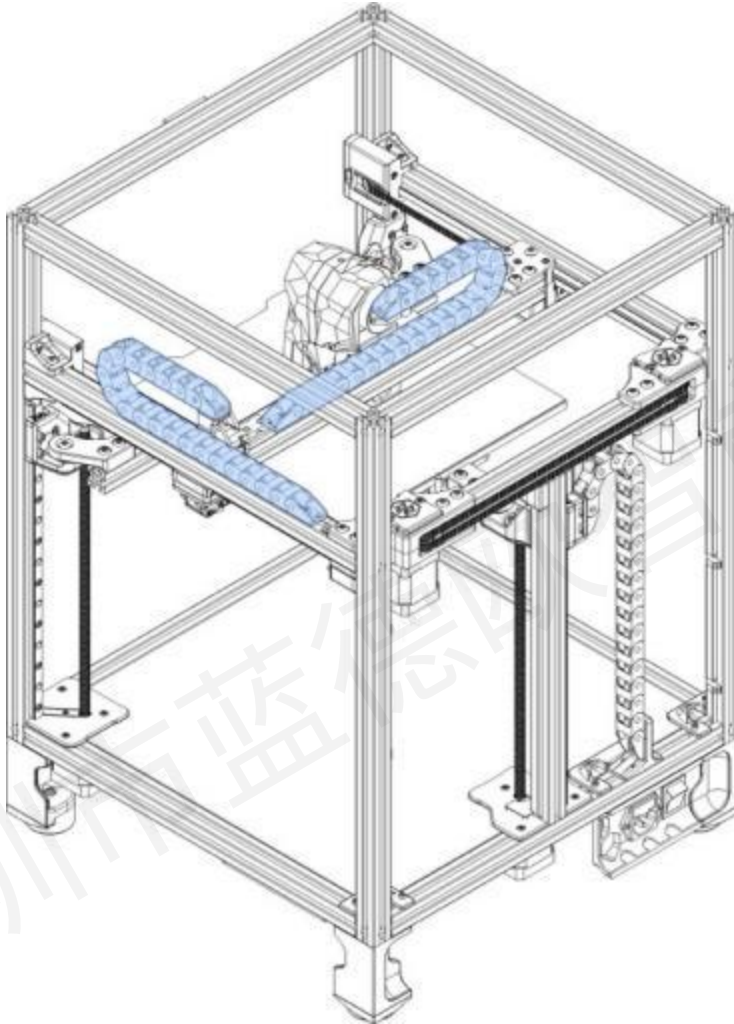
链条安装



热床线缆

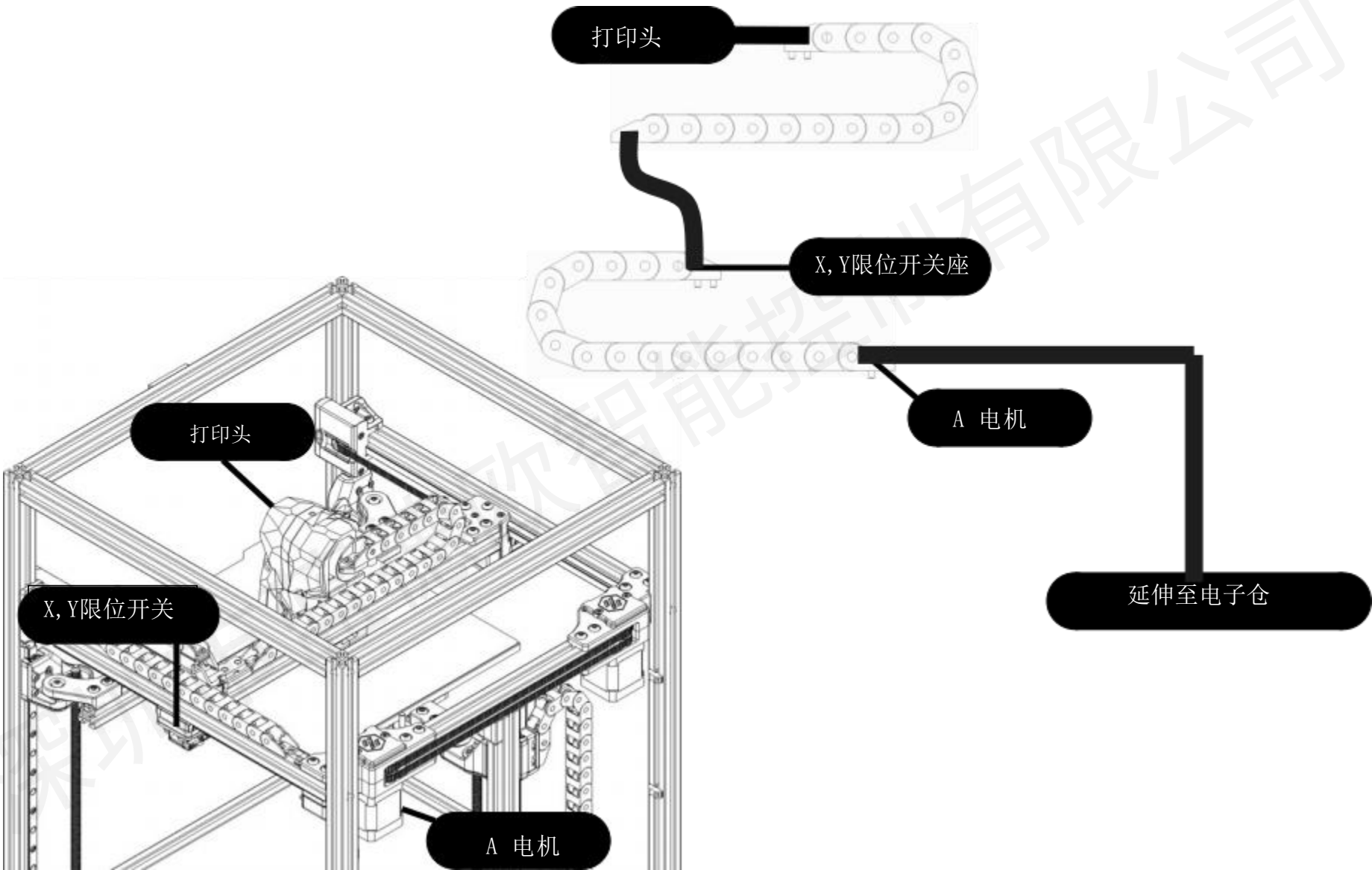


链条概述

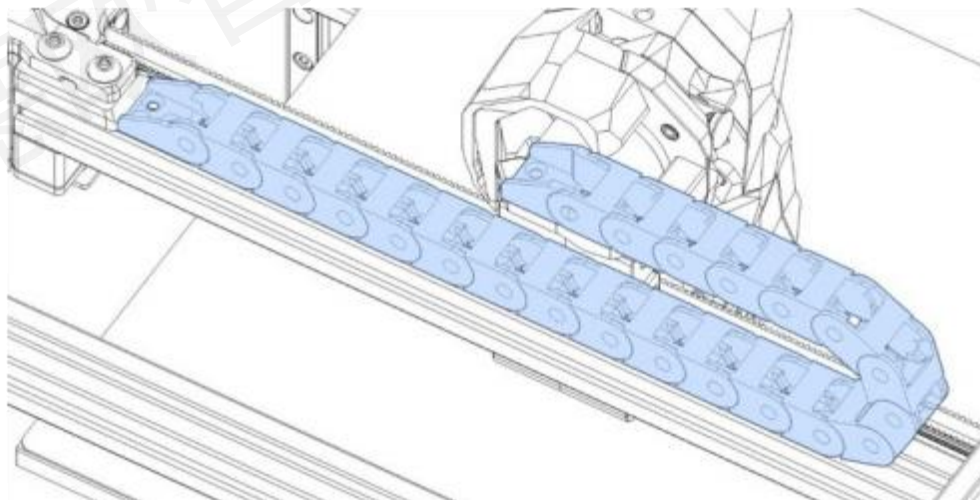
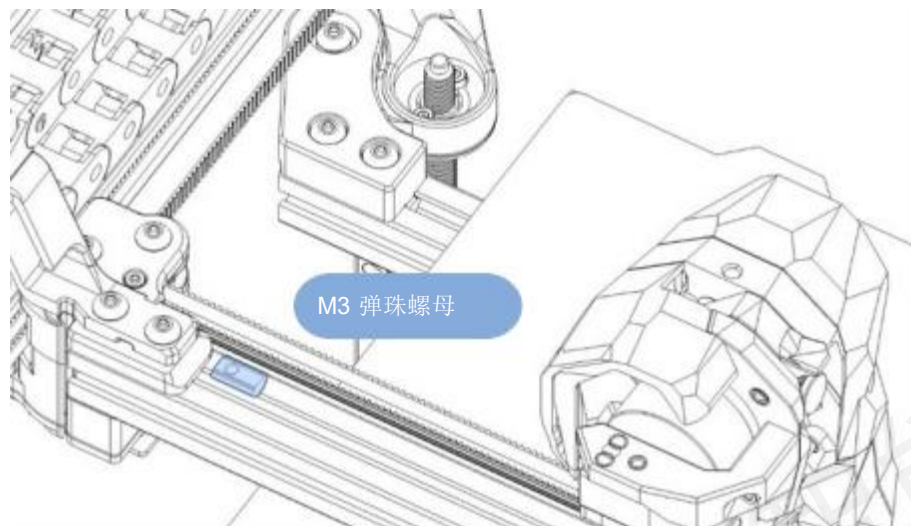


安装电缆链 您可以选择现在就安装链条，然后将导线穿过链条；也可以在打印机外部组装完整的线束并一次性安装。两种方式均可行。

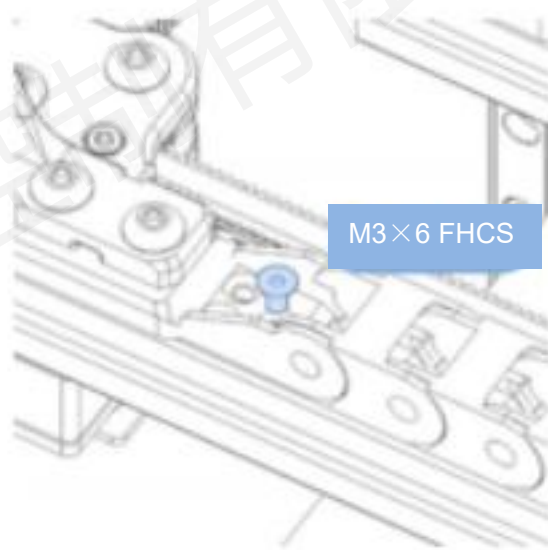
链条概述



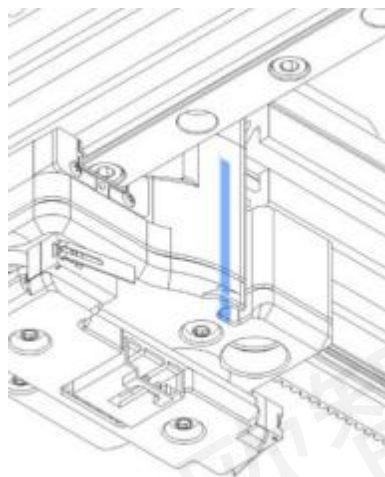
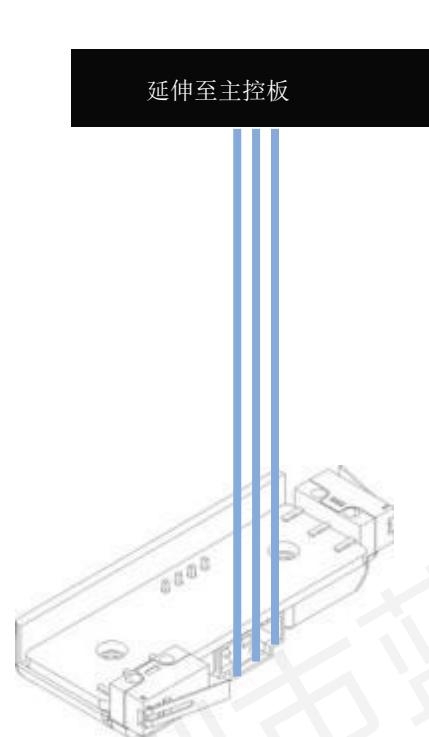
打印头链条走线



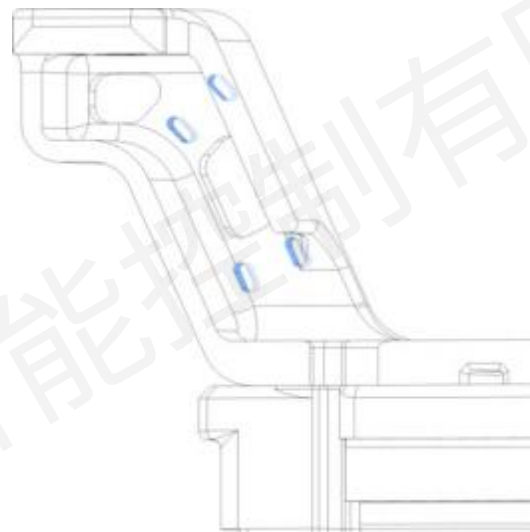
打印头链条走线



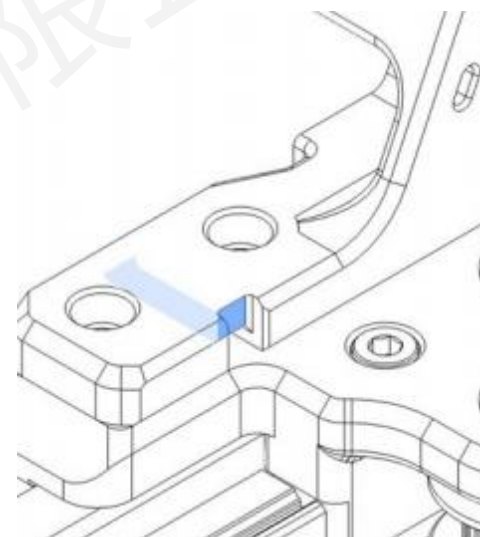
打印头/XY 限位开关 PCB走线



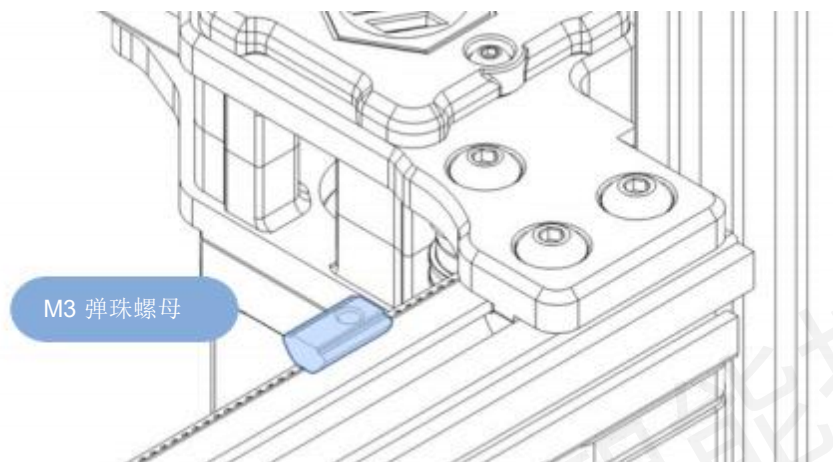
该接口虽为 4 针插头，但实际仅需两根信号线加一根地线。



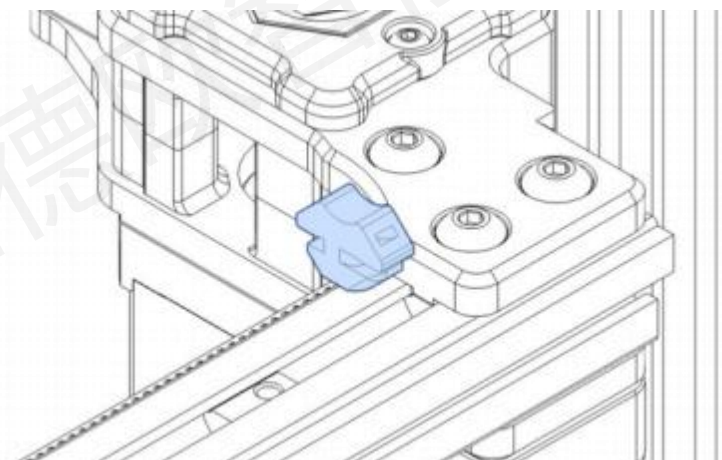
IGUS 拖链内置凹槽



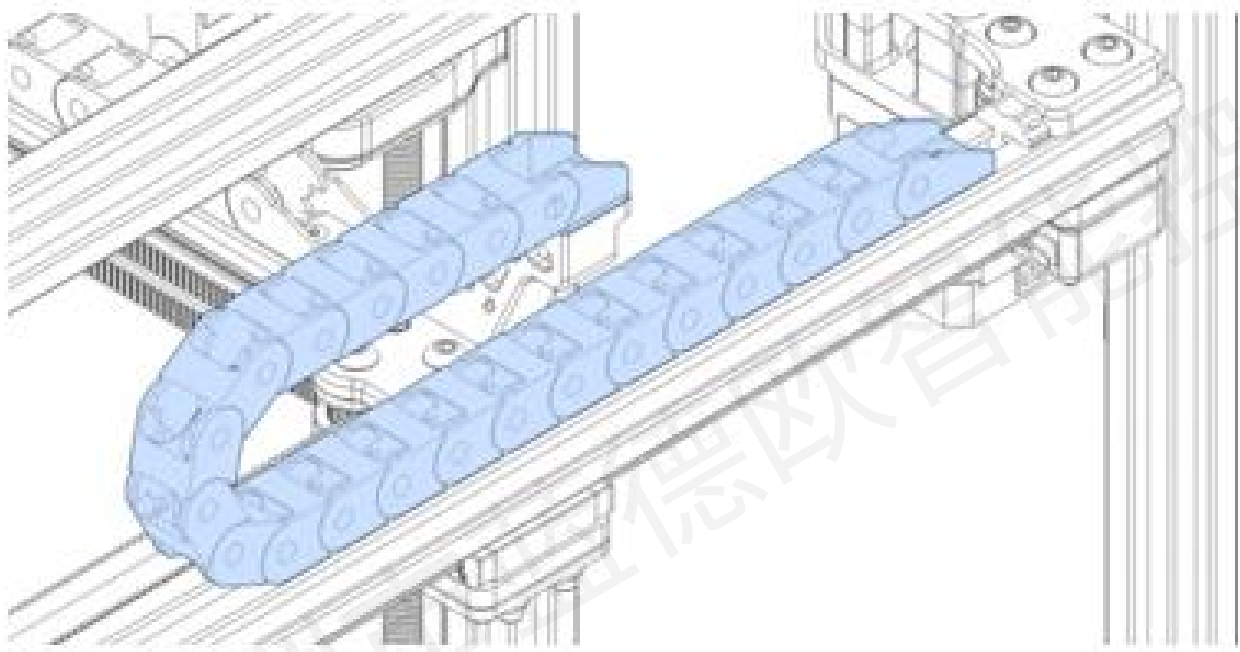
打印头/XY 限位开关 PCB走线



通用电缆链

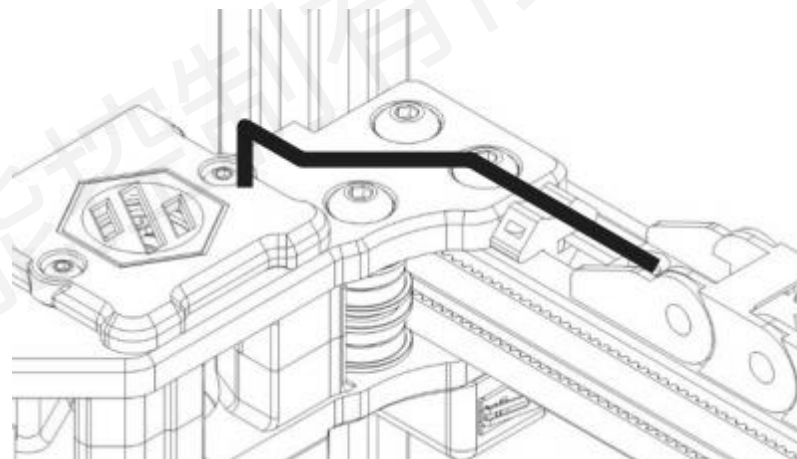
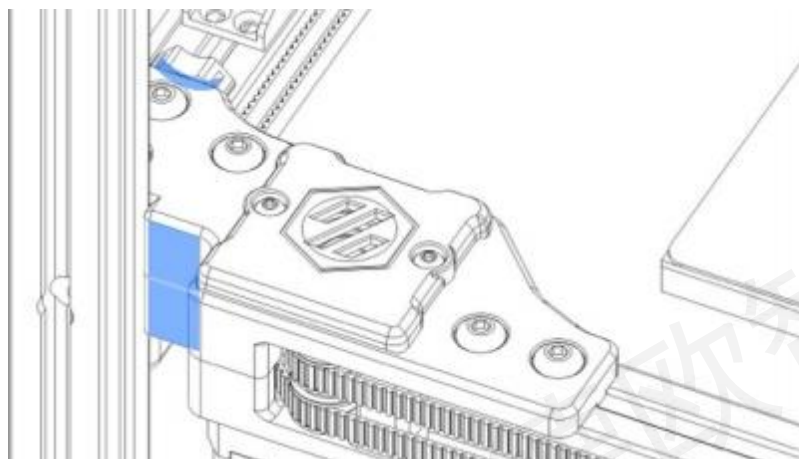


打印头/XY 限位开关 PCB走线



M3×6 FHCS

打印头/XY 限位开关 PCB走线

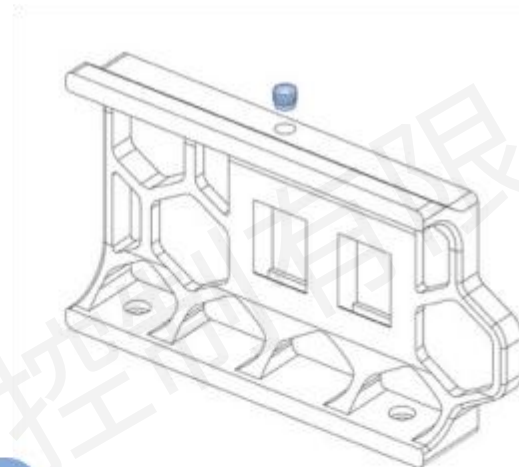
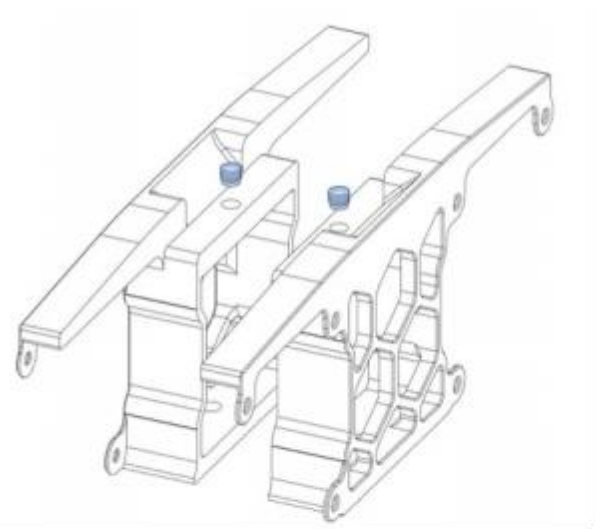


布线路径：沿标出的路径铺设电线，IGUS链条上的集成装置进行固定。

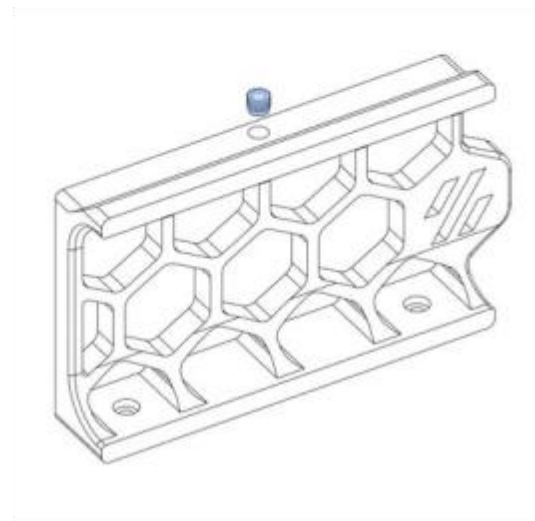
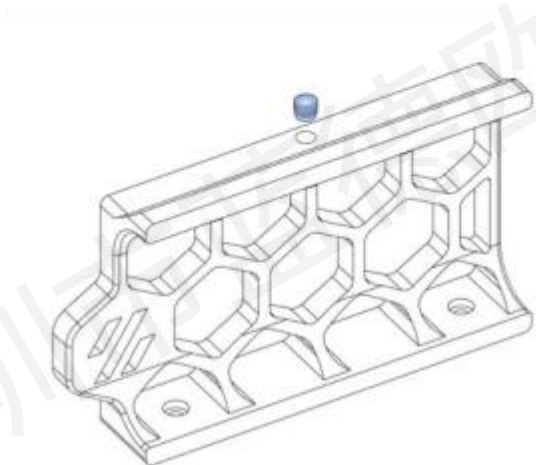
裙边



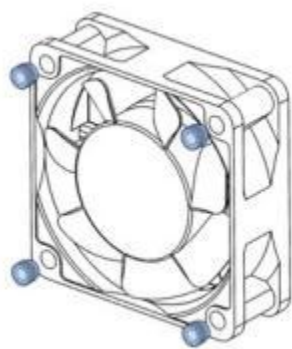
热嵌入滚花螺母



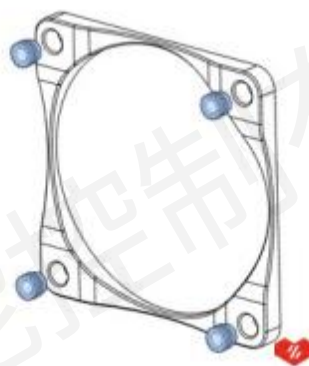
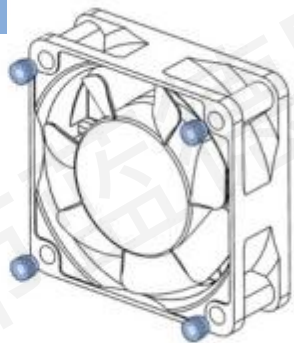
M3×4×5 黄铜螺母



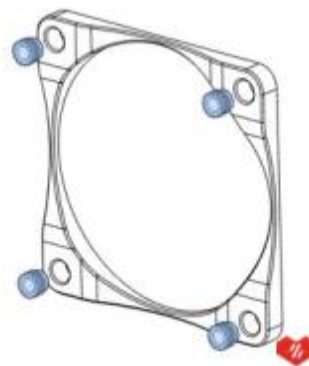
准备工作



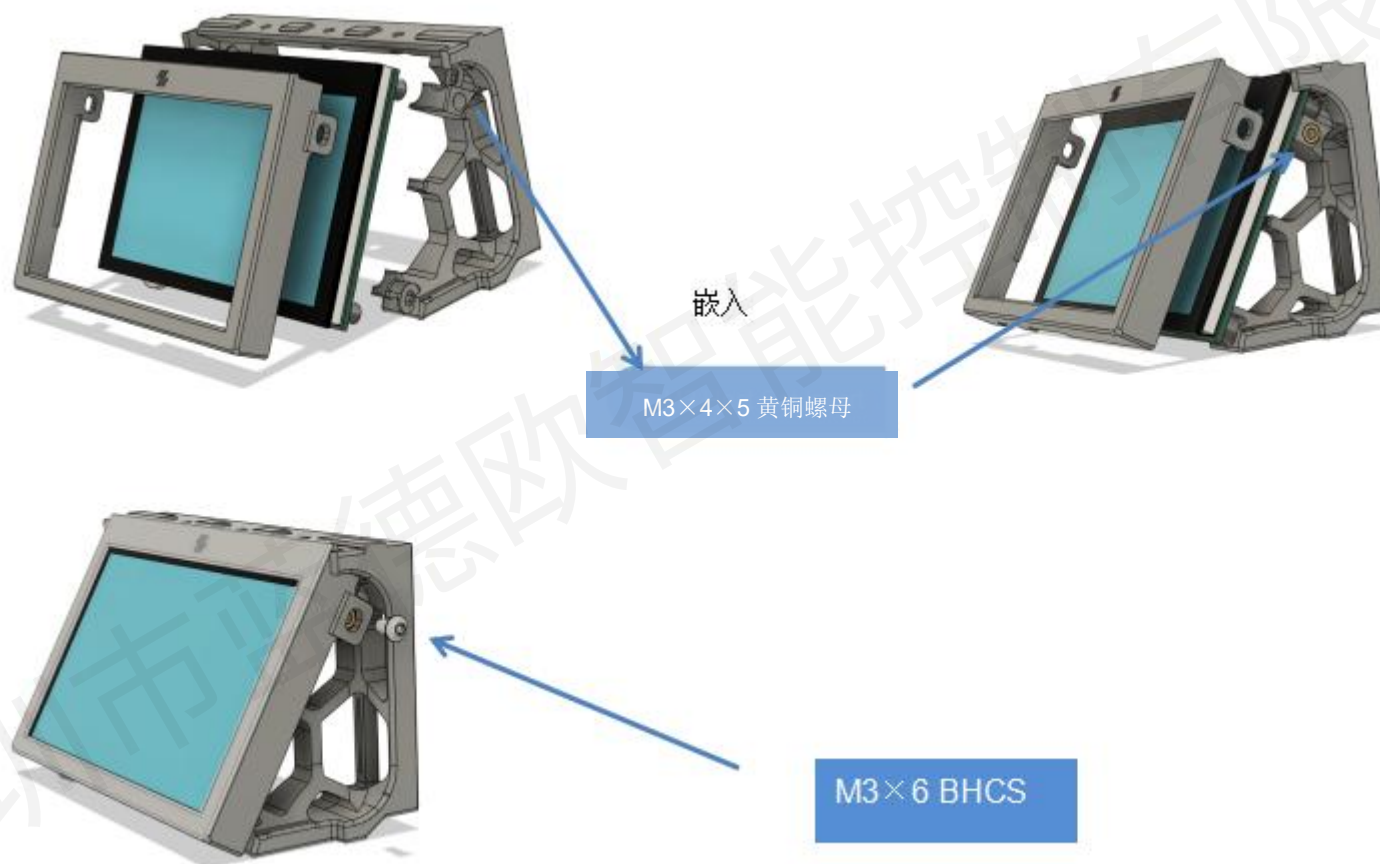
6020 电扇



M3×4×5 黄铜螺母



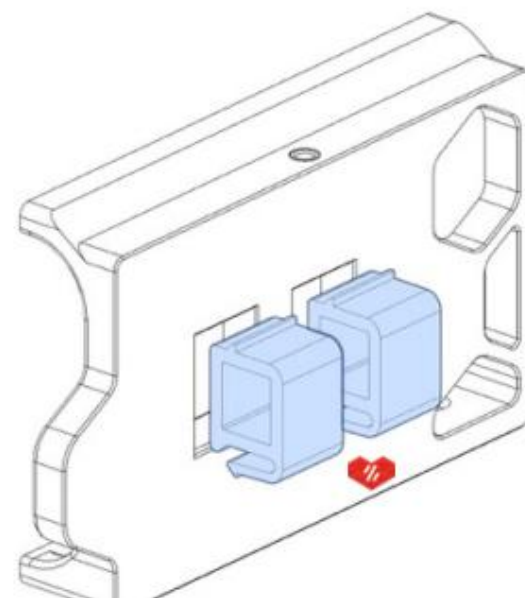
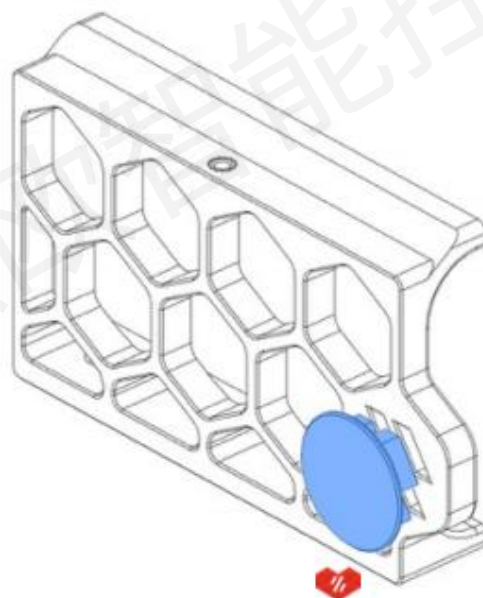
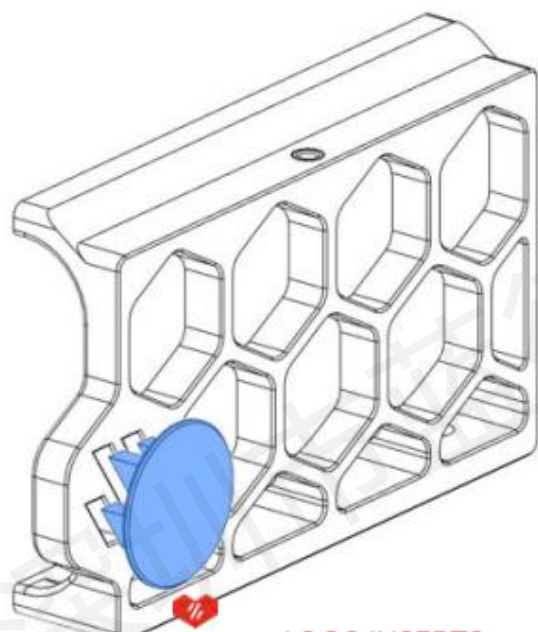
LCD



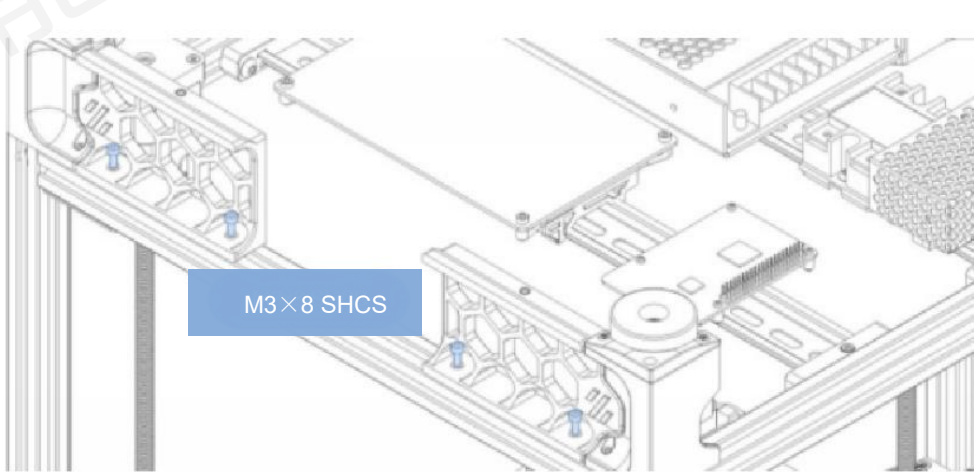
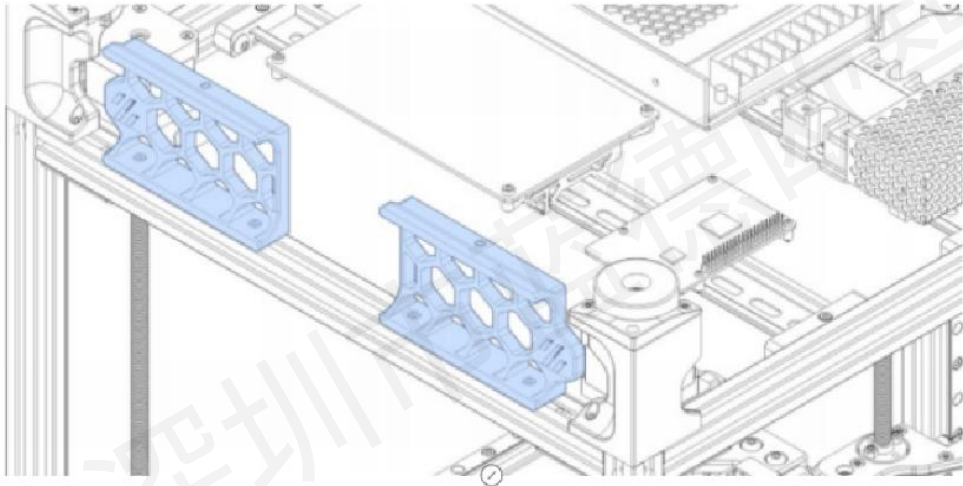
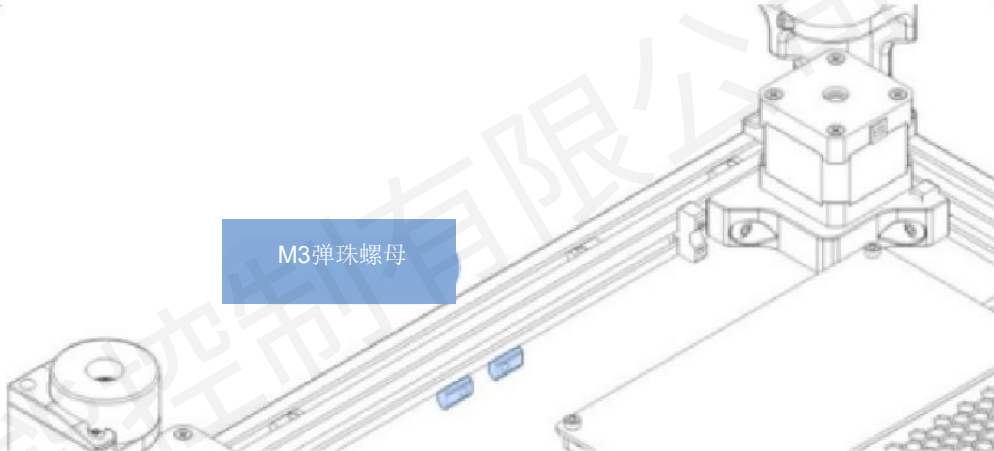
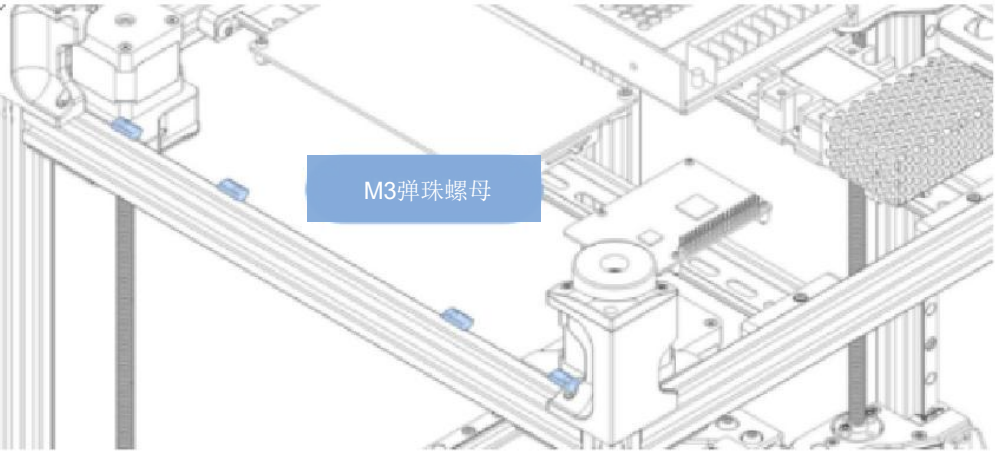
LCD



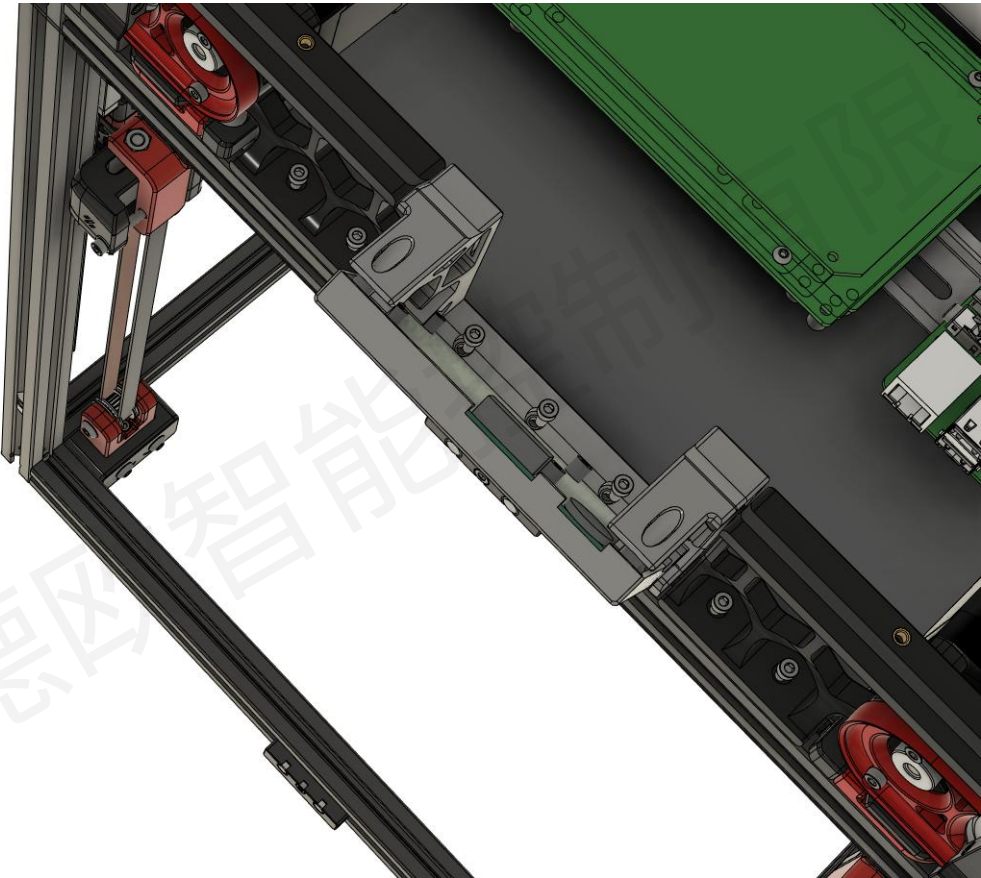
裙边



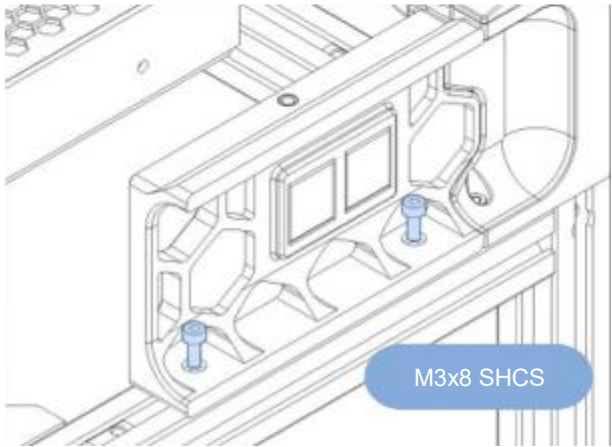
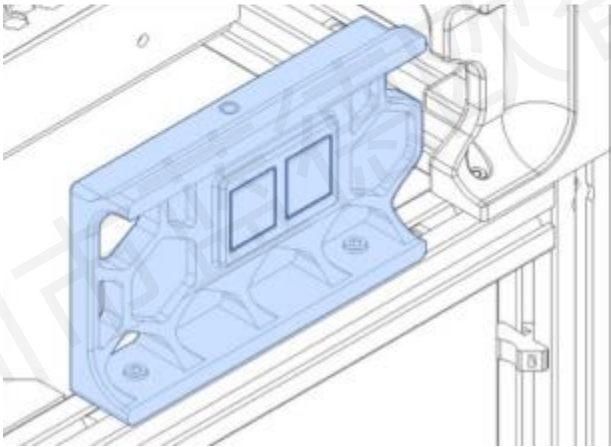
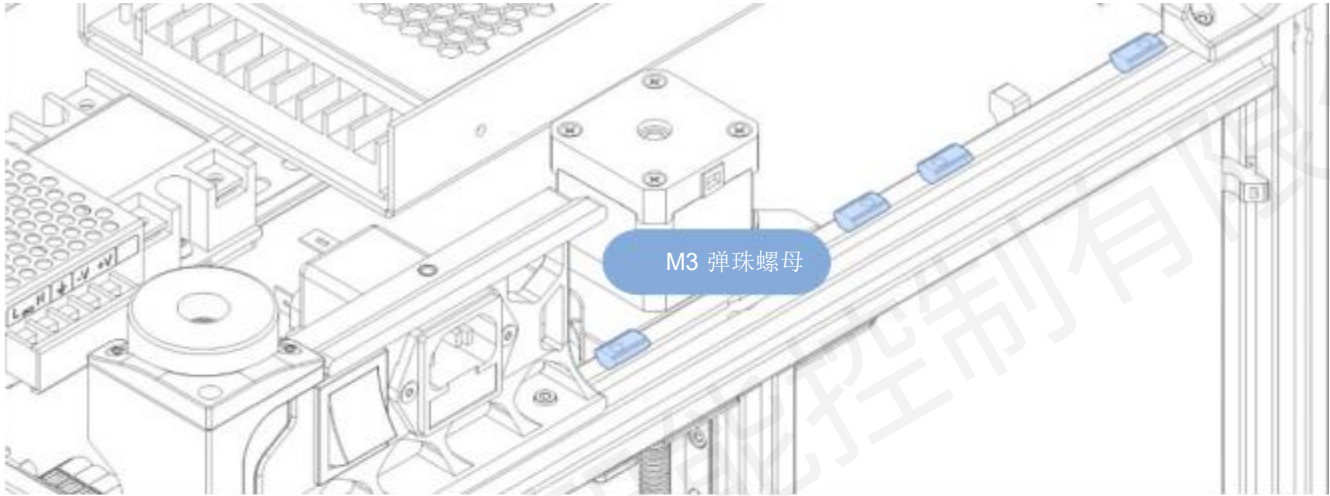
裙边



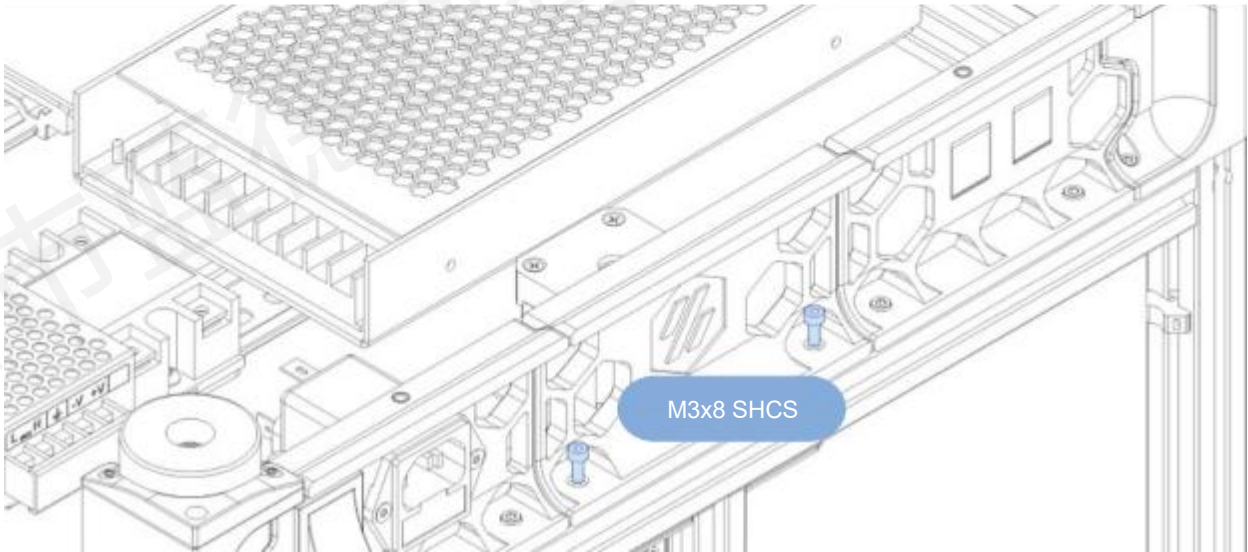
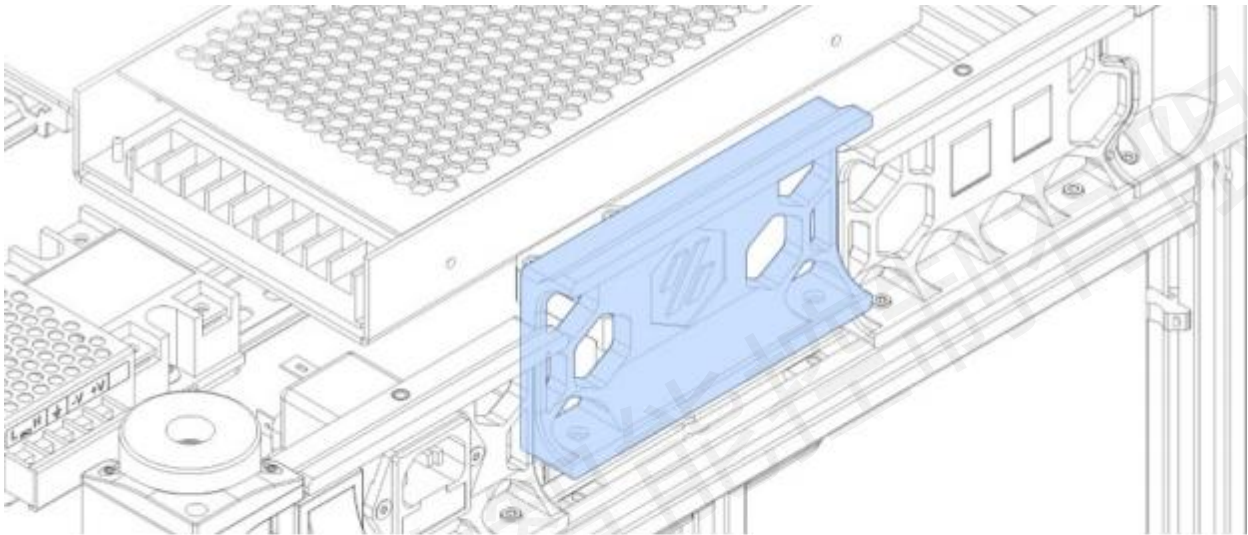
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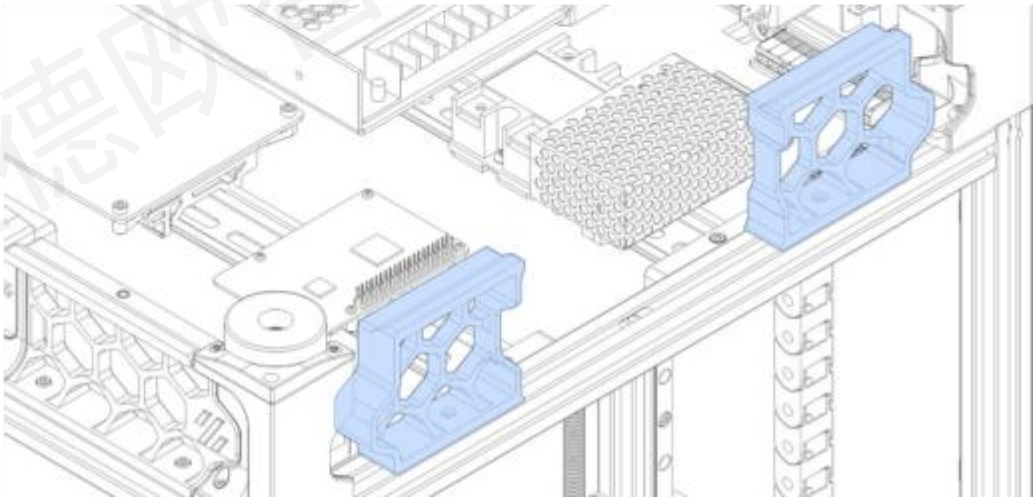
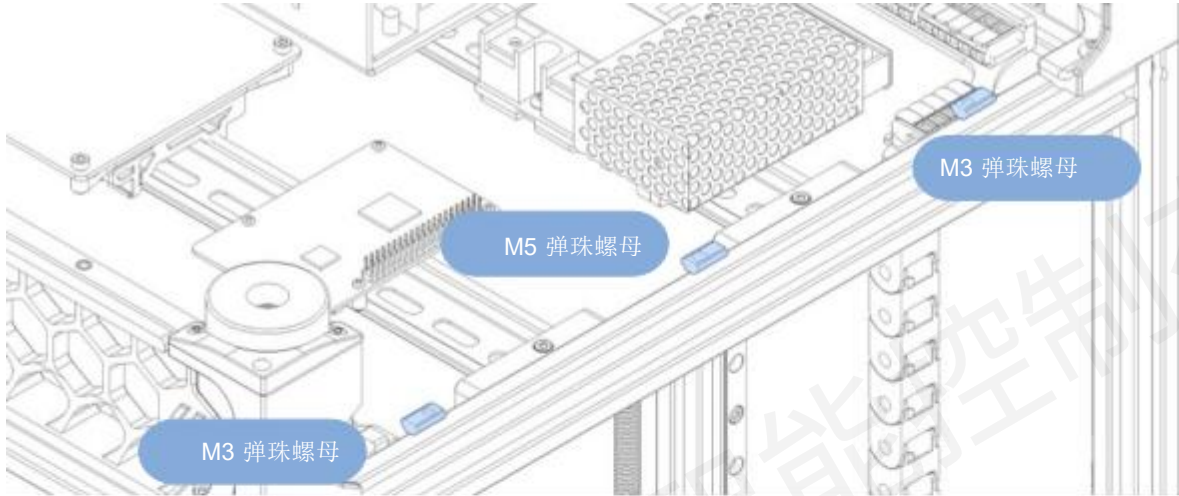
裙边



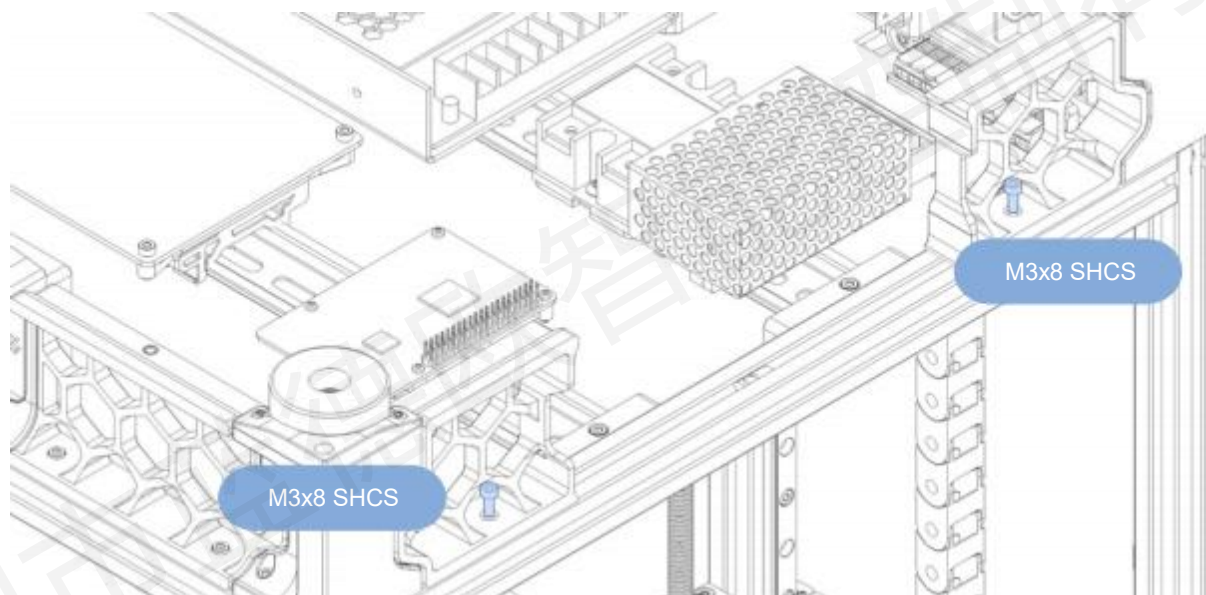
裙边



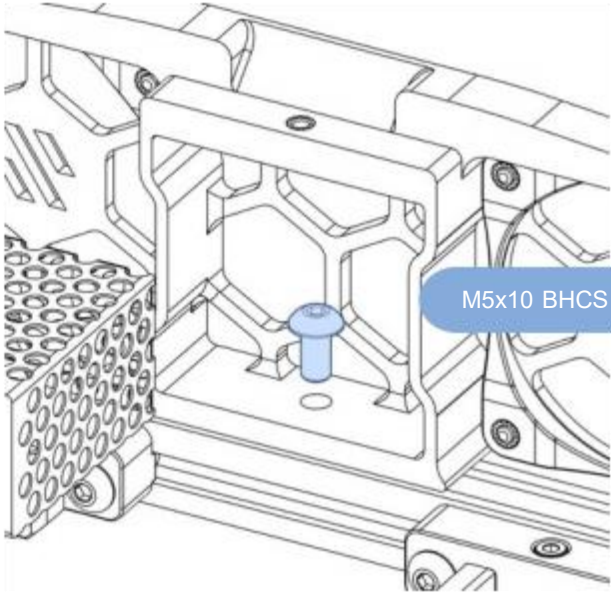
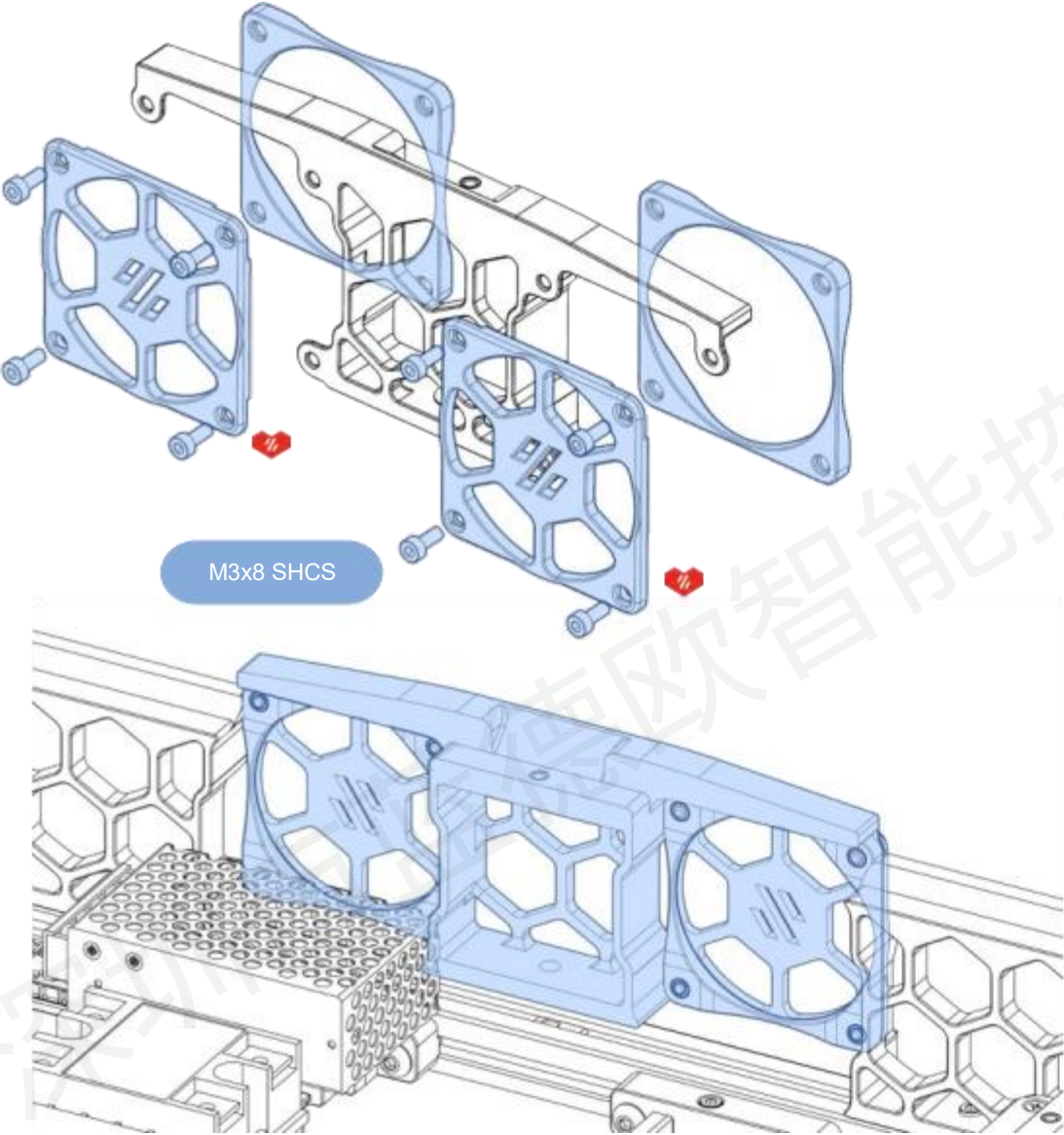
裙边



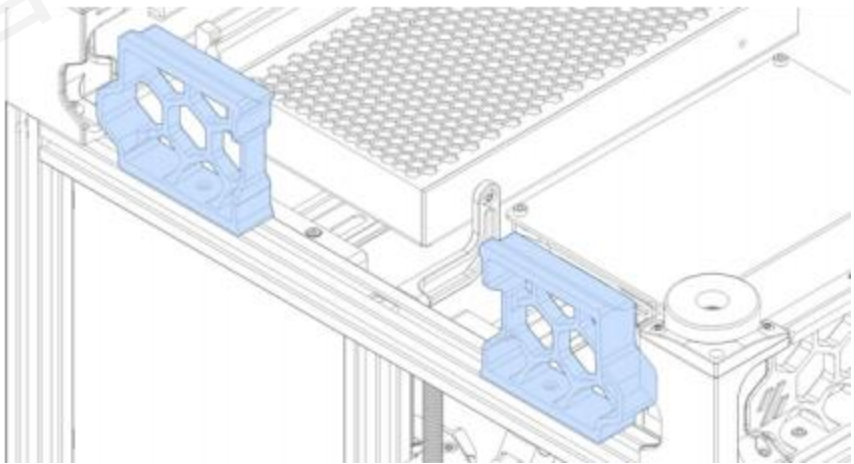
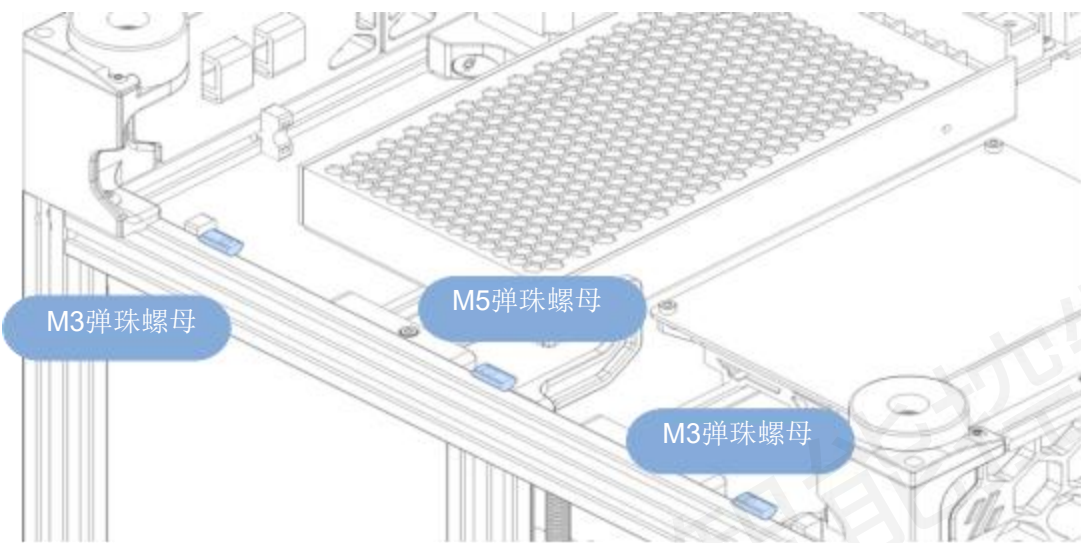
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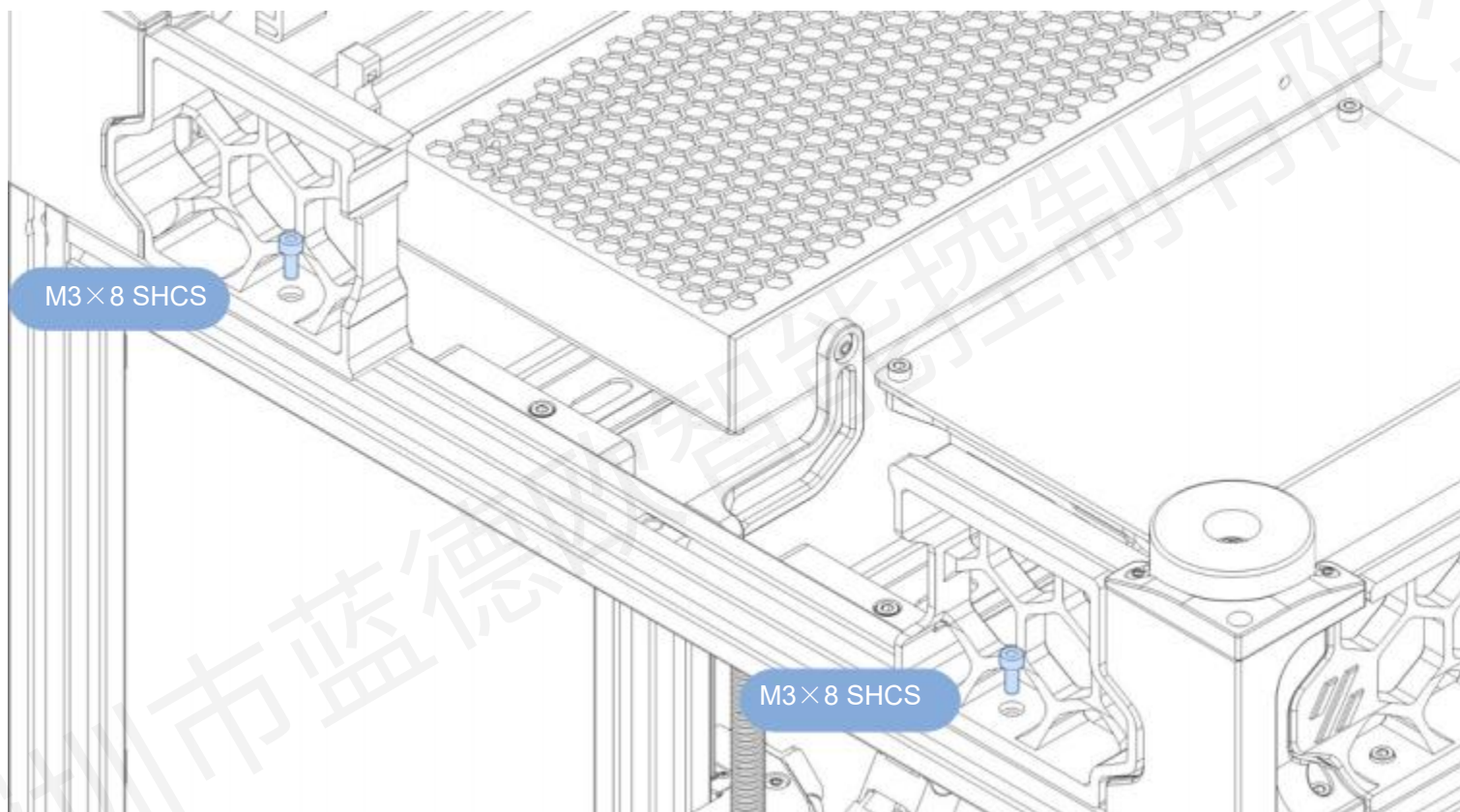
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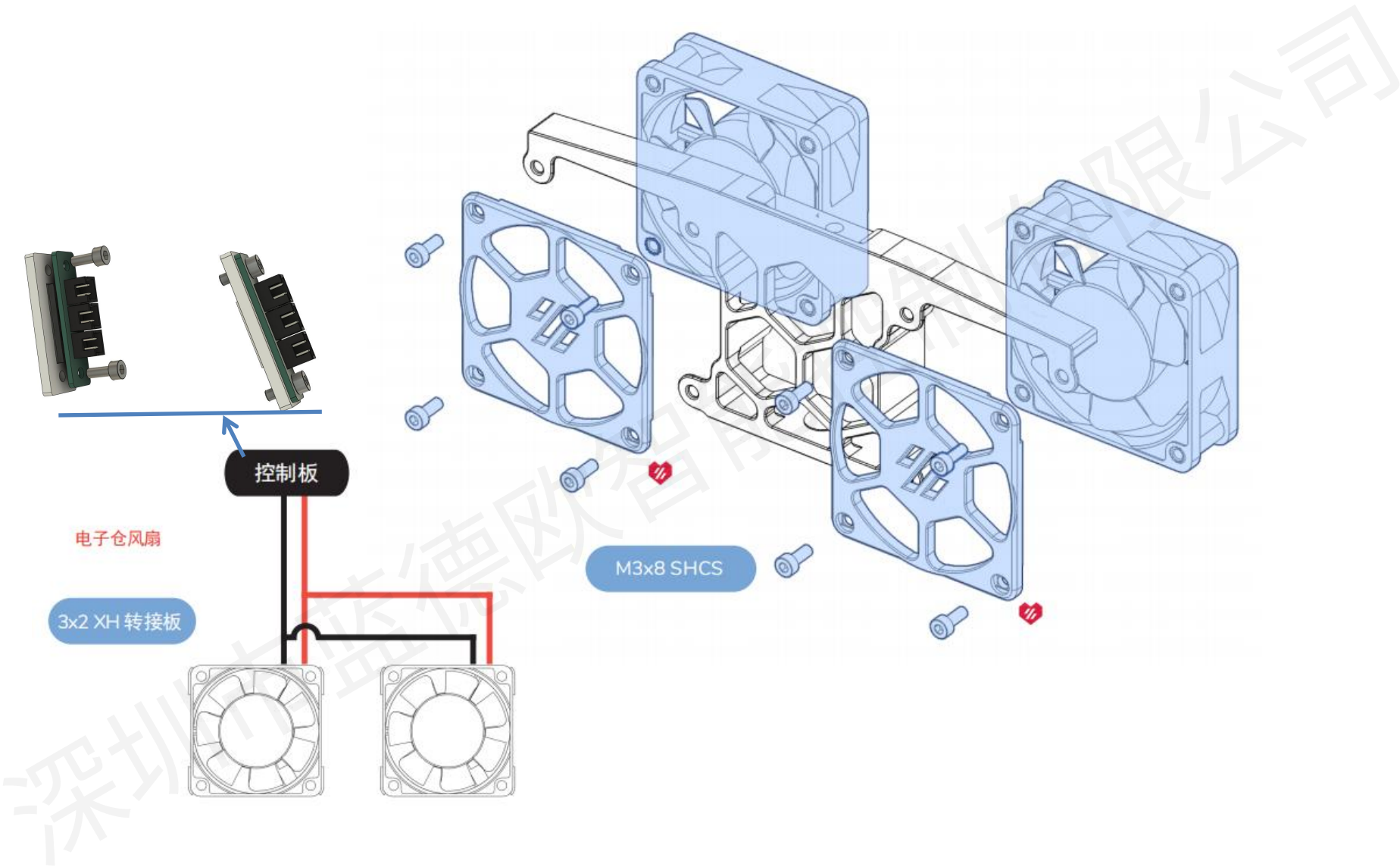
裙边



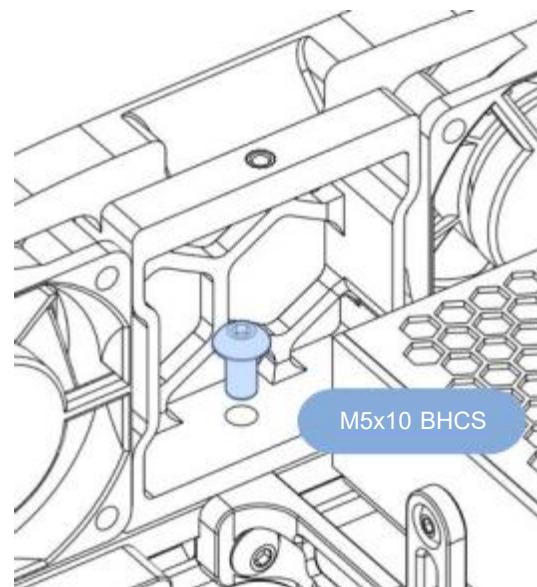
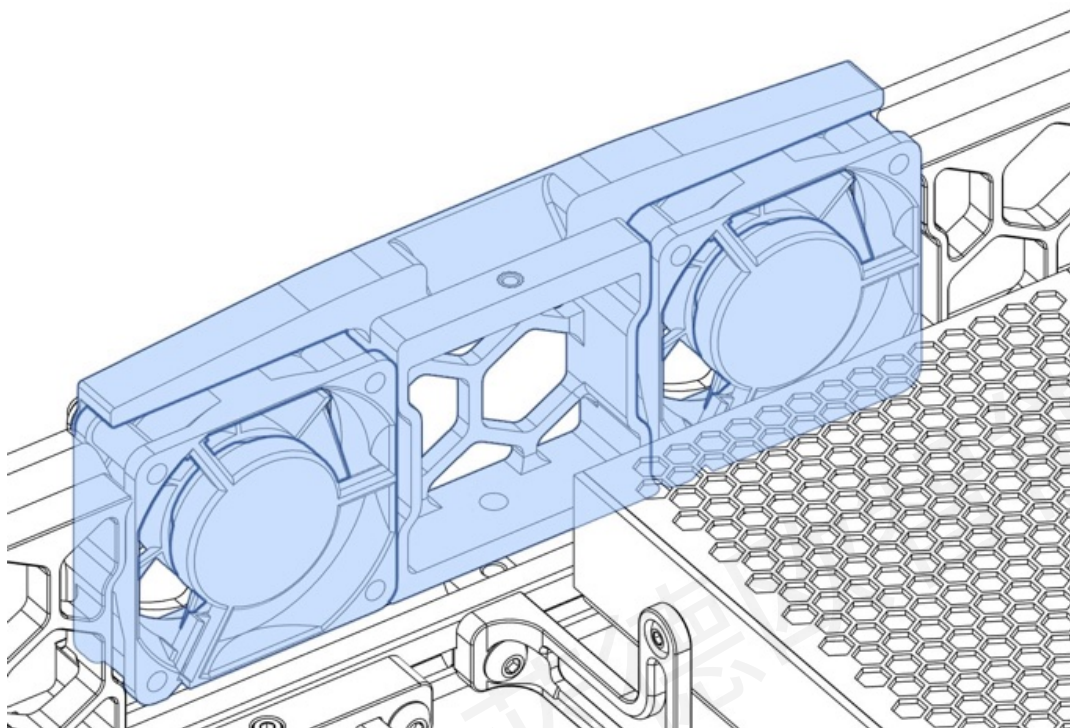
裙边



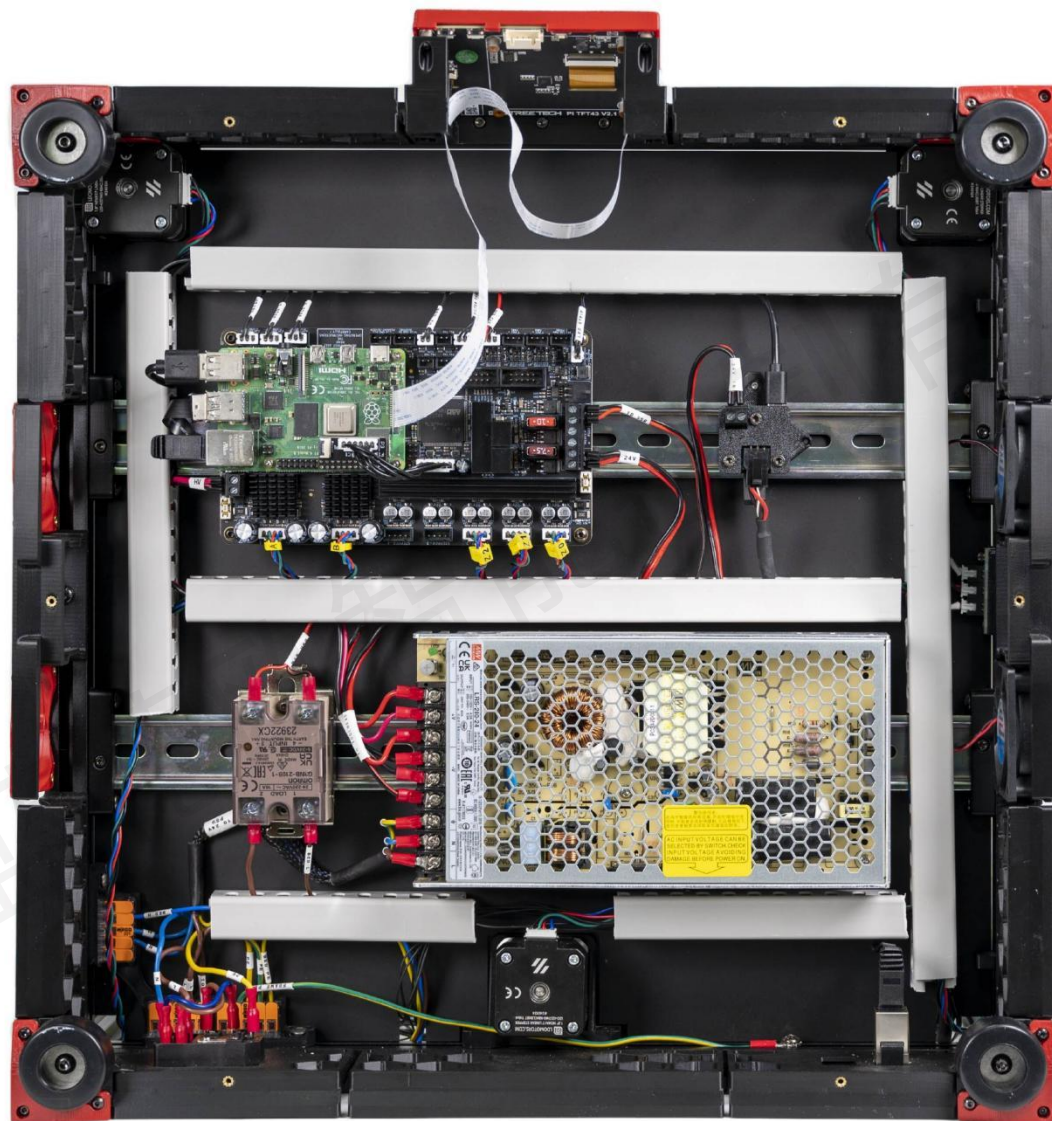
裙边



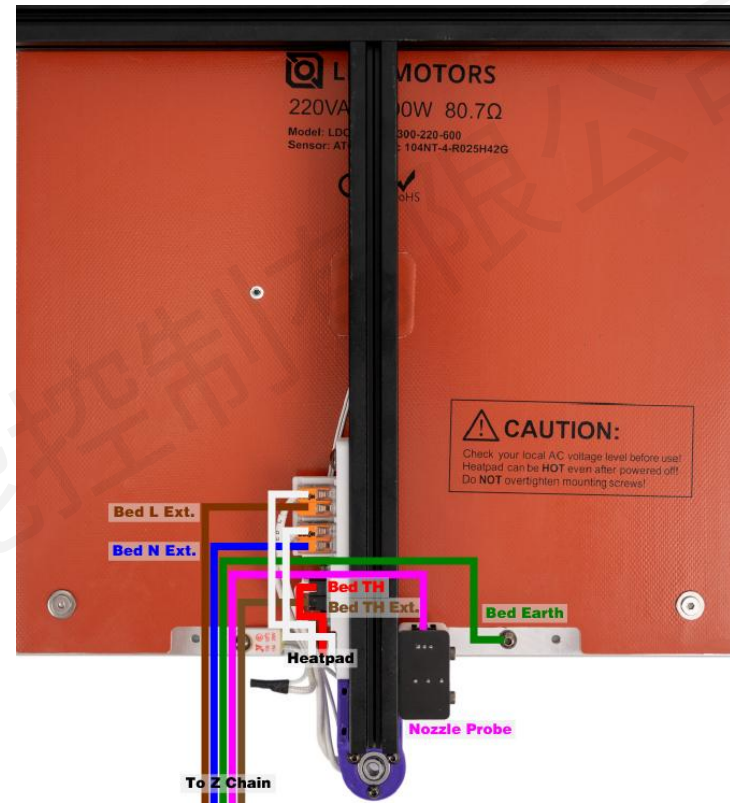
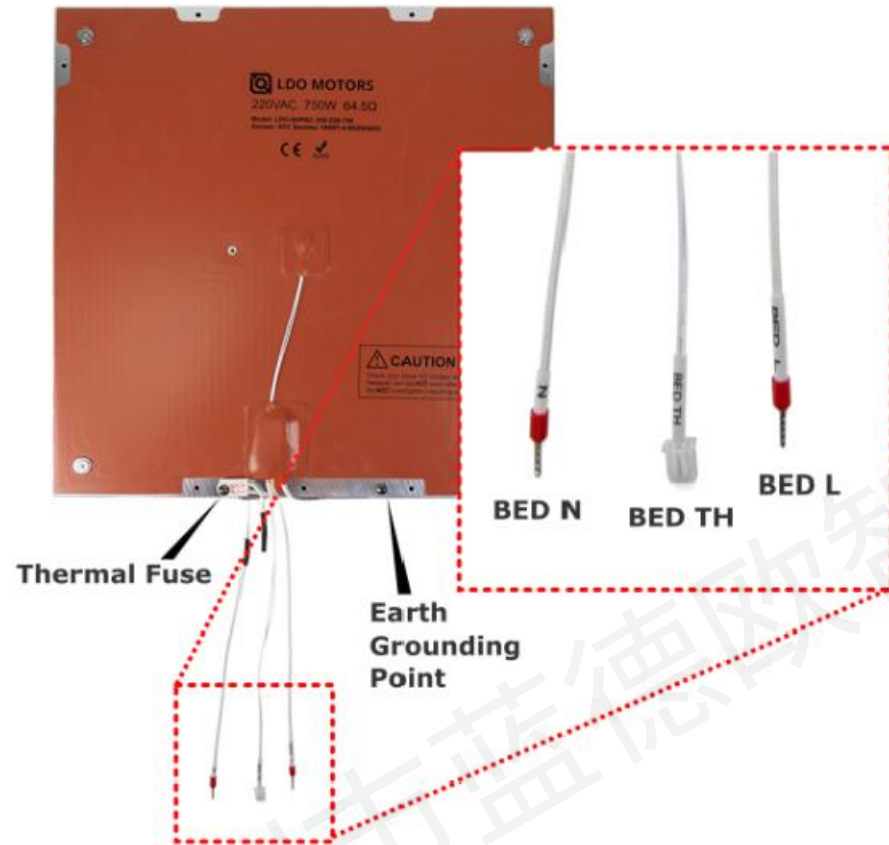
裙边



布线

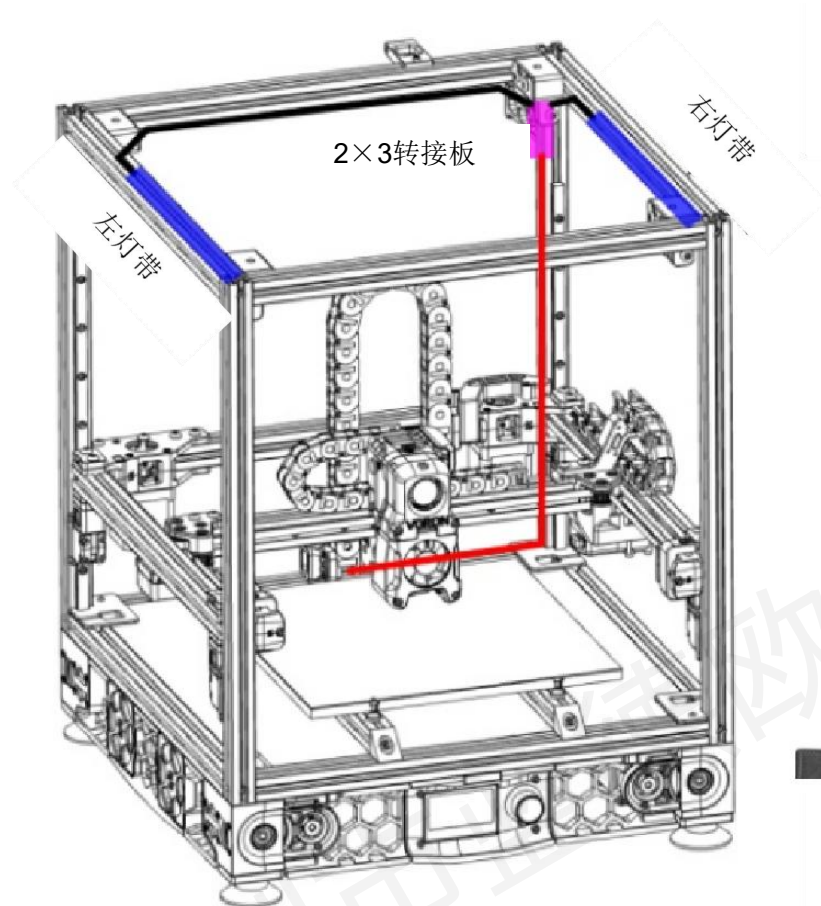


布线

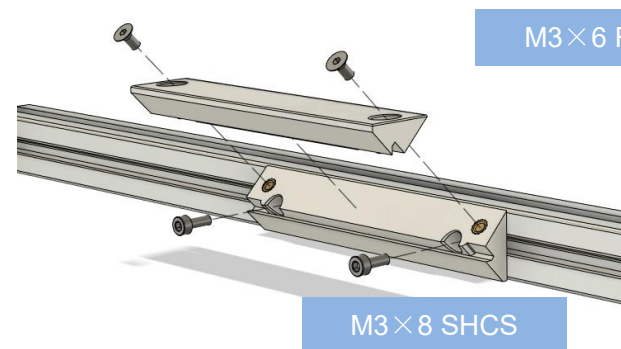


LED 灯条走线

我们的套件包含两根 LED 灯条，可安装为打印机的天花板照明。请记住使用打印件进行安装，以防止与挤出件短路，并使用 M3 弹珠螺母和 M3x8 SHCS 螺钉进行安装。



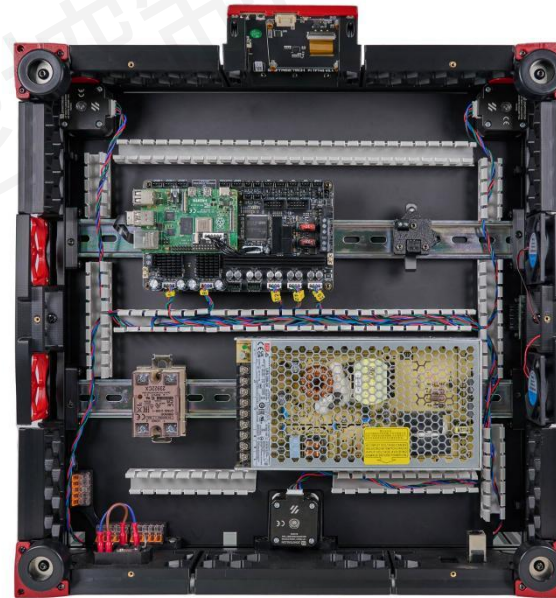
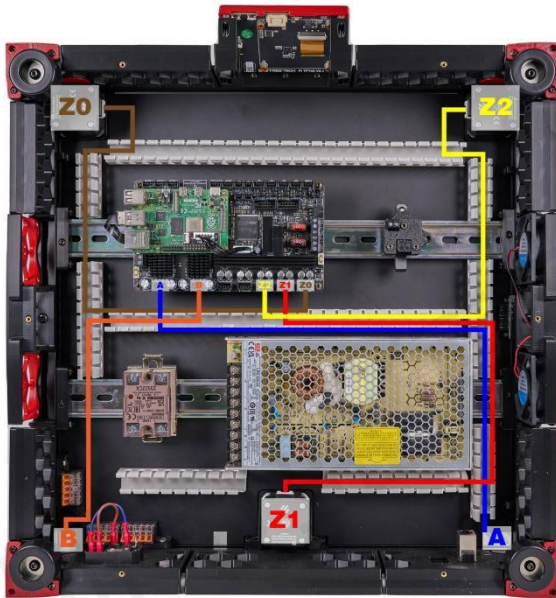
切记用套件中提供的型材盖盖住布线 LED 电缆的插槽



布线

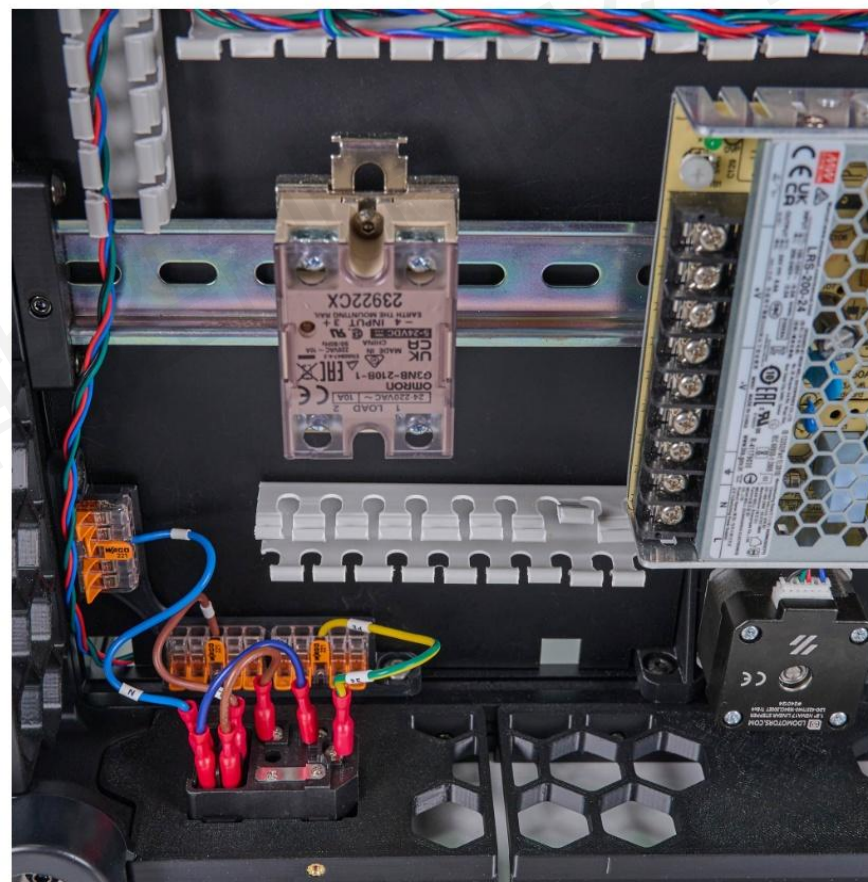
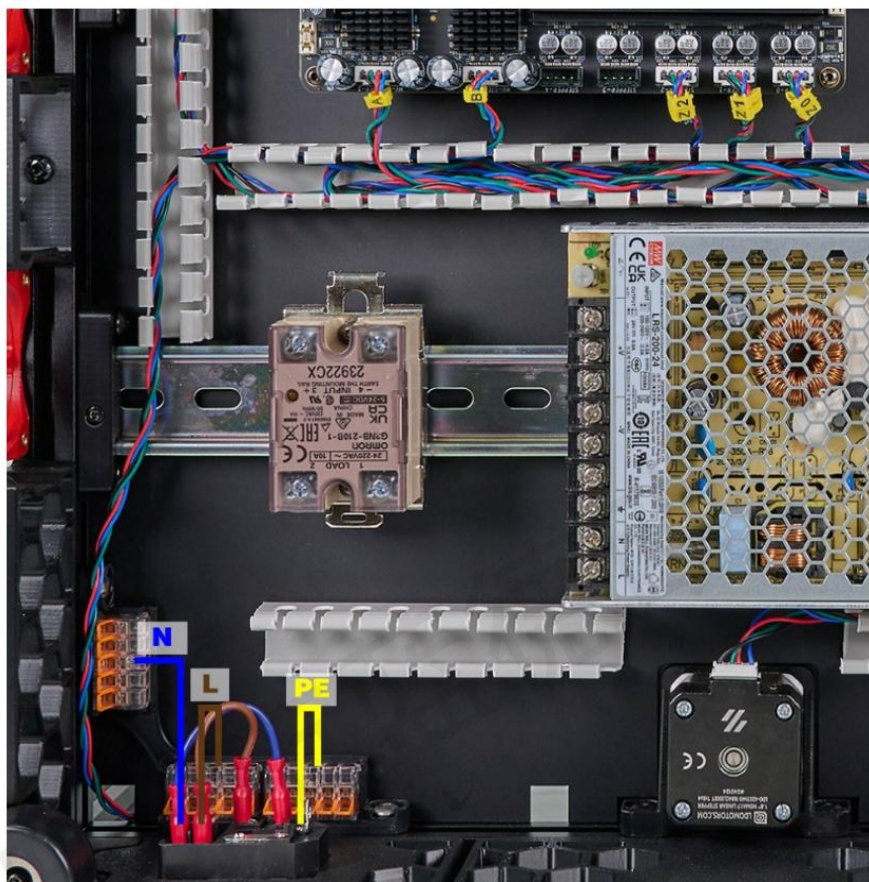
连接步进电机：我们将安装所有步进电机电缆（不包括 E 电机）。建议使用包含的线缆标签来标记步进电缆。

- A 电机（后右）-> HV-STEPPER-1
- B 电机（后左）-> HV-STEPPER-0
- Z0（前左）-> STEPPER-0
- Z1（后）-> STEPPER-1
- Z2（前右）-> STEPPER-2



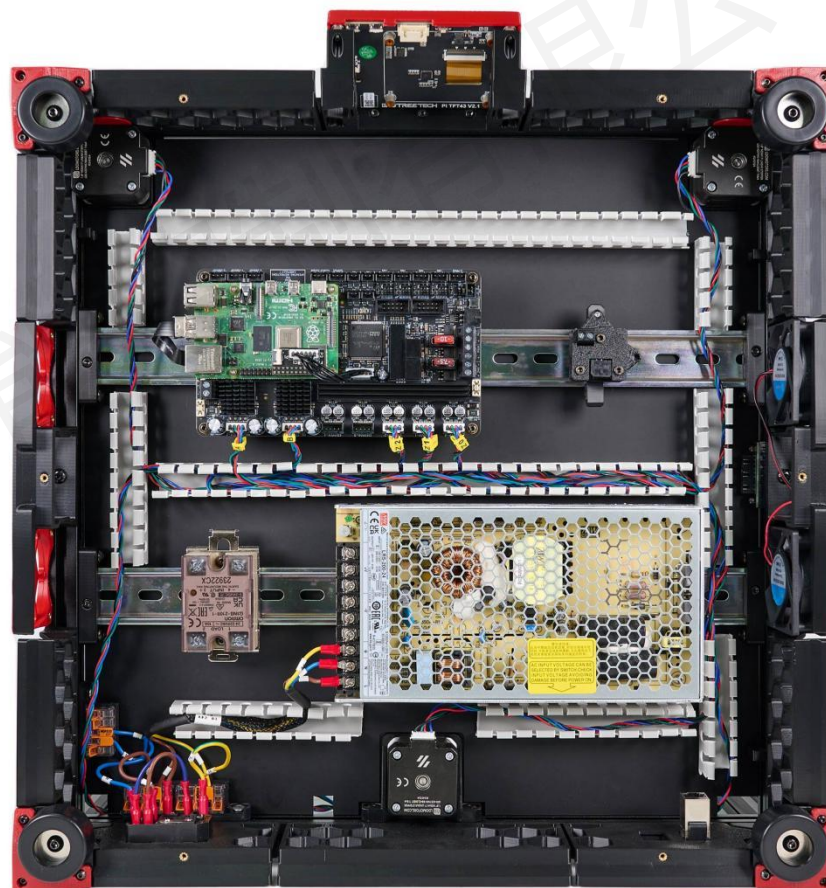
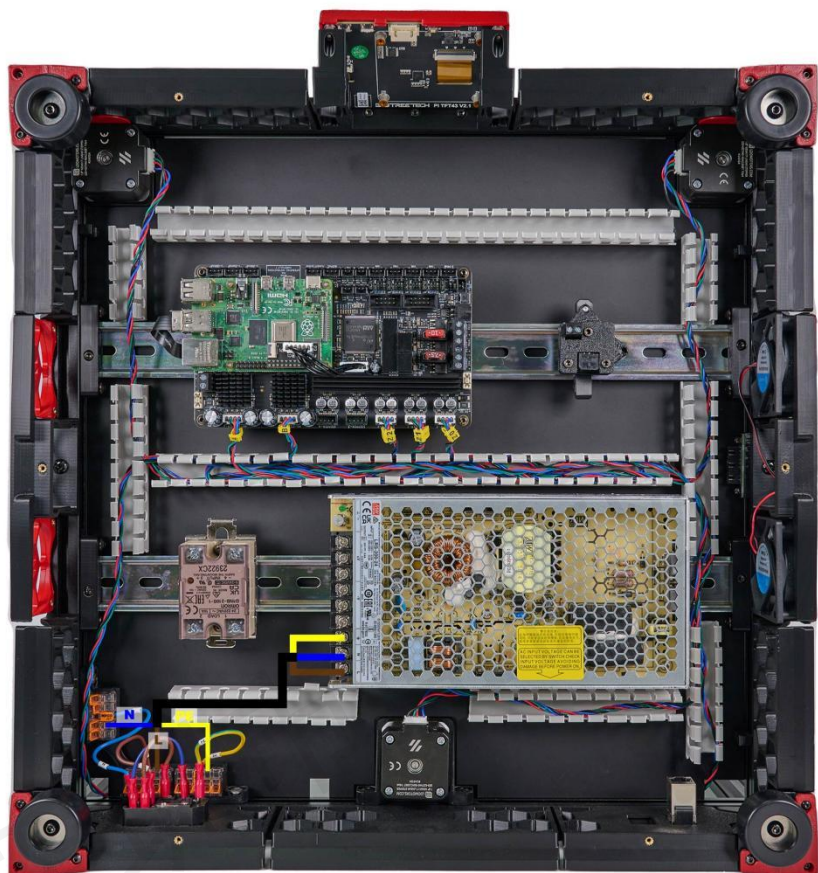
布线

连接输入模块、WAGO 端子与电源：按照图示将 AC 输入模块与 WAGO 端子连接



布线

连接 Wago 和电源：按照图示将 WAGO 端子连接至 24V电源



布线

第一次上电检查

- 1, 确认电源线没有插入电源输入插座。
- 2, 确认蓝色、棕色、黄色/黄绿色线分别进入对应的5位导线连接器。
3. 用万用表检查同色节点之间应导通。
4. 用万用表检查火线、零线、保护地之间不应互相短路。
- 5, 再次确认电源输入电压选择开关已设为正确值：230V.
6. 完成以上检查后，插入电源线并打开 电源输入插座开关；电源 应启动，LED 应亮起。
- 7, 关闭电源输入插开关并拔掉电源线, 再进入下一步。

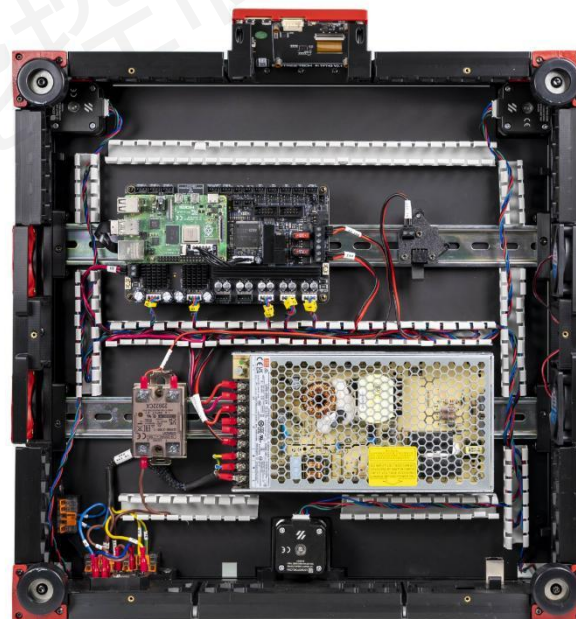
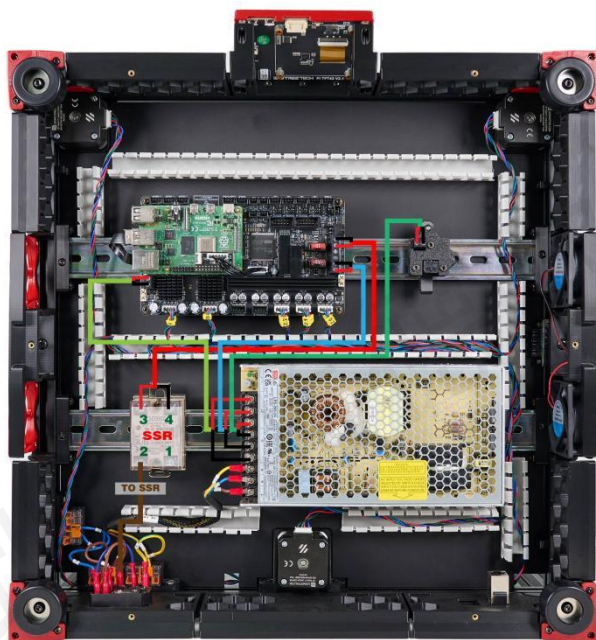
24V电源 与 继电器(SSR)布线

连接 24V 电源与 SSR

在此步骤中，我们将连接电源至控制板和继电器。

- 将 HV 至 MB HV 电缆的 HV 端连接到控制板，将 TO MB HV 端连接到电源。
- 将 SSR 至 MB 电缆的 SSR SIG 端连接到 SSR 上的 INPUT 3&4。红线连 INPUT 3，黑线连 INPUT 4。
- 将 To SSR 端连接到控制器上的 HEATBED 终端。
- 将 SSR 至 Wago 电缆的 To SSR 端连接至棕色 Wago 插槽，另一端连接至 SSR 上的 LOAD 2。
- 将 24V PSU 至 MB 电缆的 24V 端连接到控制器上的 Board 终端，并将 TO MB 端连接到 PSU。
- 将 24V 电源线的 TO TOOLHEAD 端连接到 PSU，将 24V IN 端连接到 USB 转接板。注意极性。

SSR 连接错误可能导致灾难性损坏。密切注意 SSR 上的数字标签和黄色 LED 灯的位置。

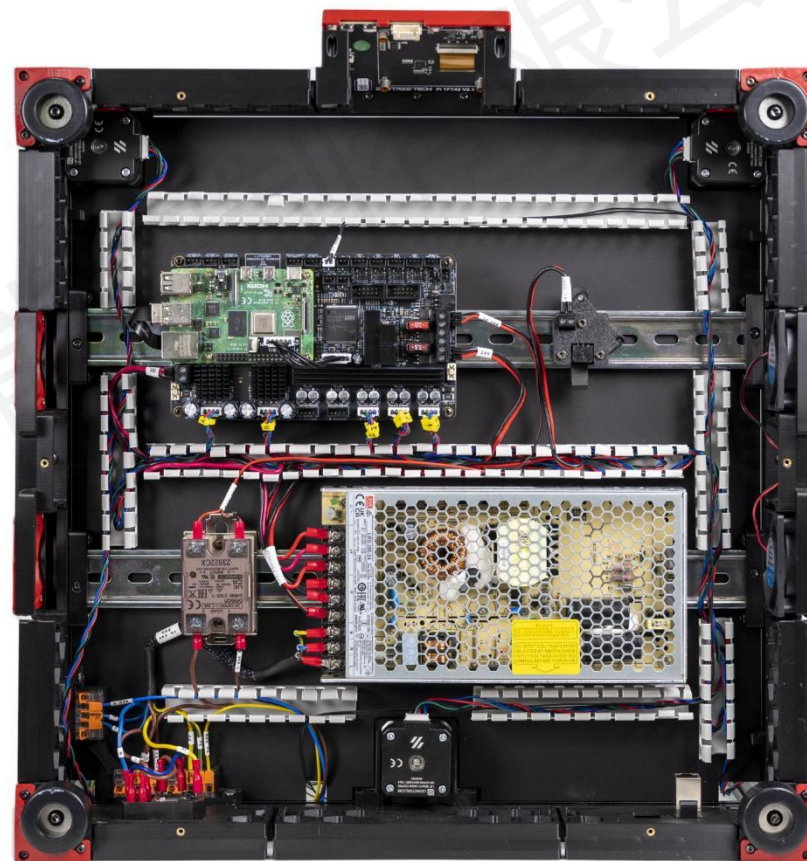
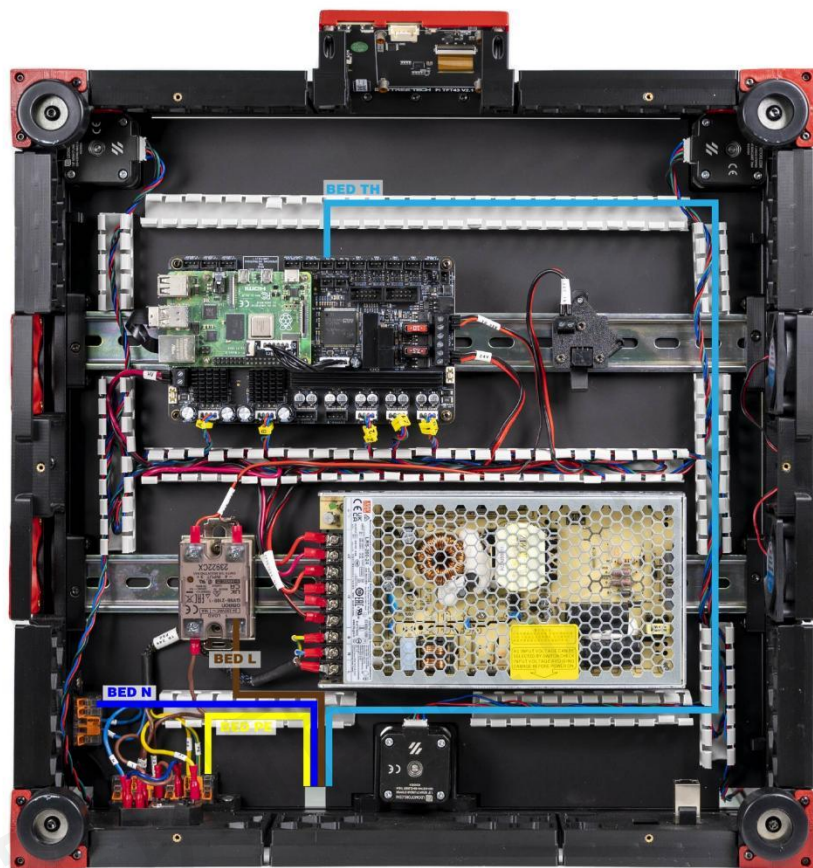


热床布线

Bed N 接蓝色 导线连接器；

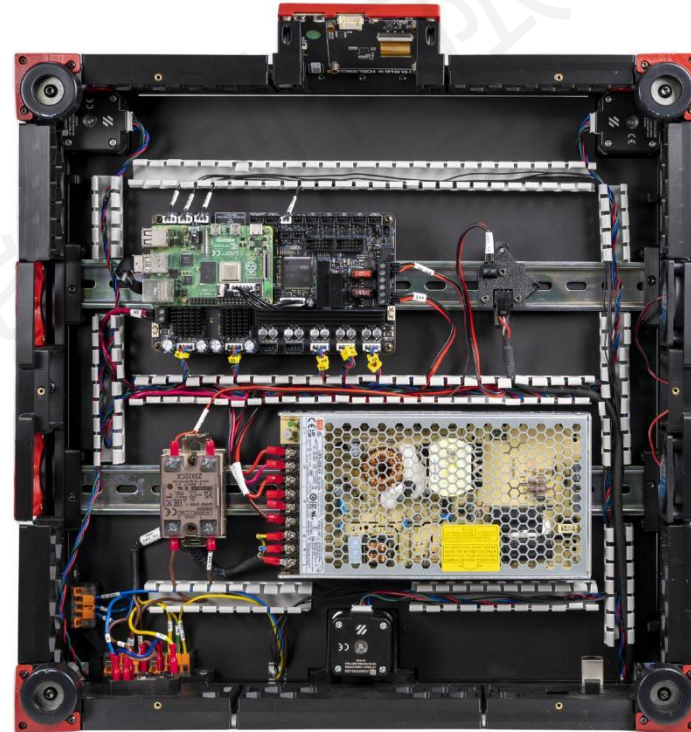
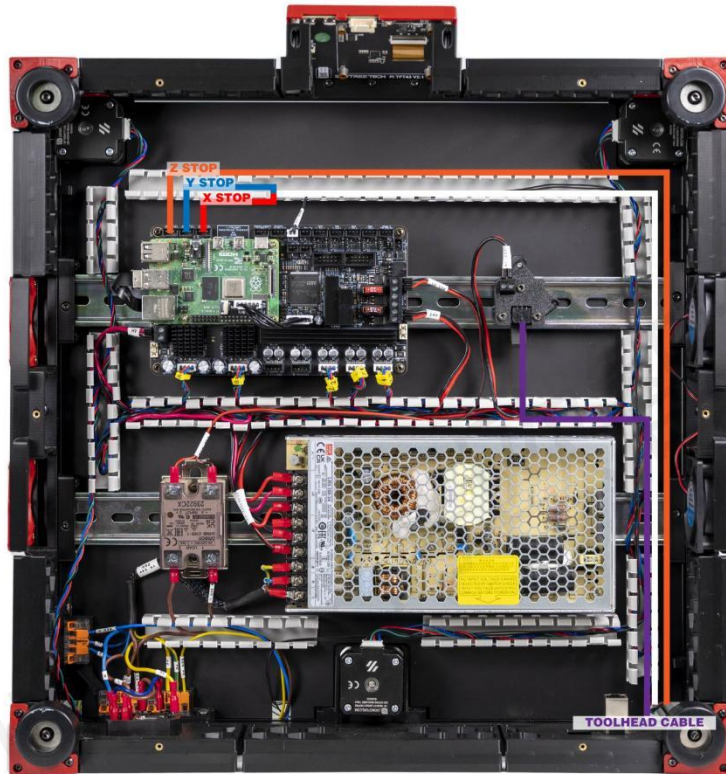
Bed L 接 继电器(SSR)的 负载 1；

Bed PE接黄色/黄绿导线连接器； Bed TH接控制板TH1



龙门架布线

1. XY限位线 XES\YES 线接控制板上标记为 X-ENDSTO\Y-ENDSTO的 3 针连接器。
2. Z限位线 Z STOP 接控制板上标记为 Z-ENDSTOP 的 3 针连接器。
3. 工具头线A260接USB转接板。

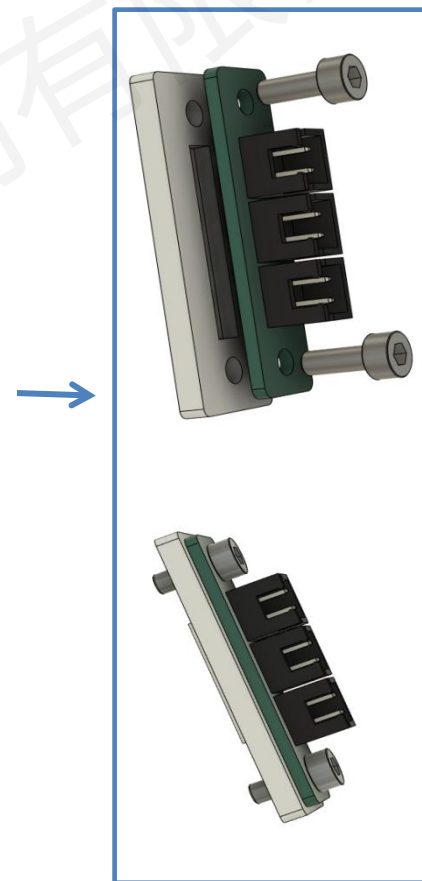
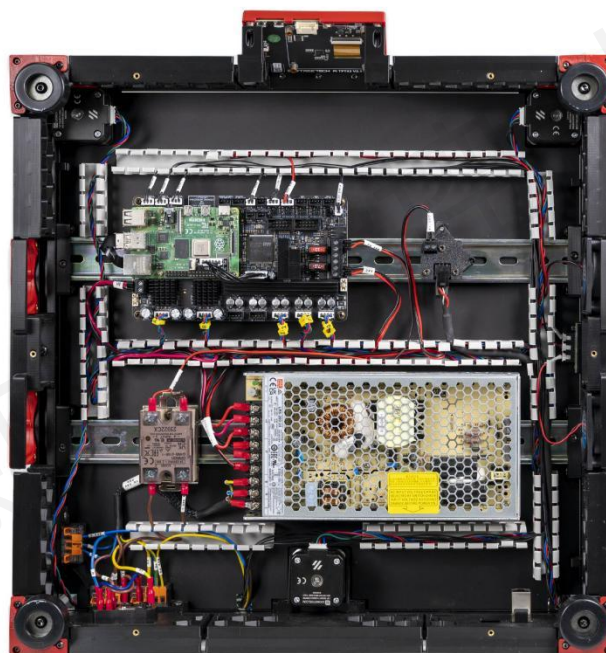
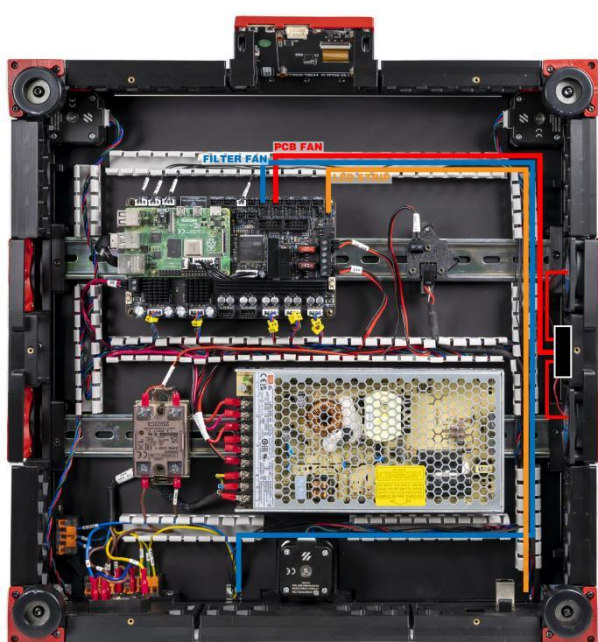


风扇与LED灯条布线

连接风扇和 LED 灯条

两个 6020 风扇使用 3x2 分接 PCB 连接。使用打印件安装 3x2 拼接 PCB 以防止挤压短路。

PCB 风扇连 FAN2/PF7，LED 灯条连 LED-Strip/PE6，过滤风扇连 FAN3/PF9。



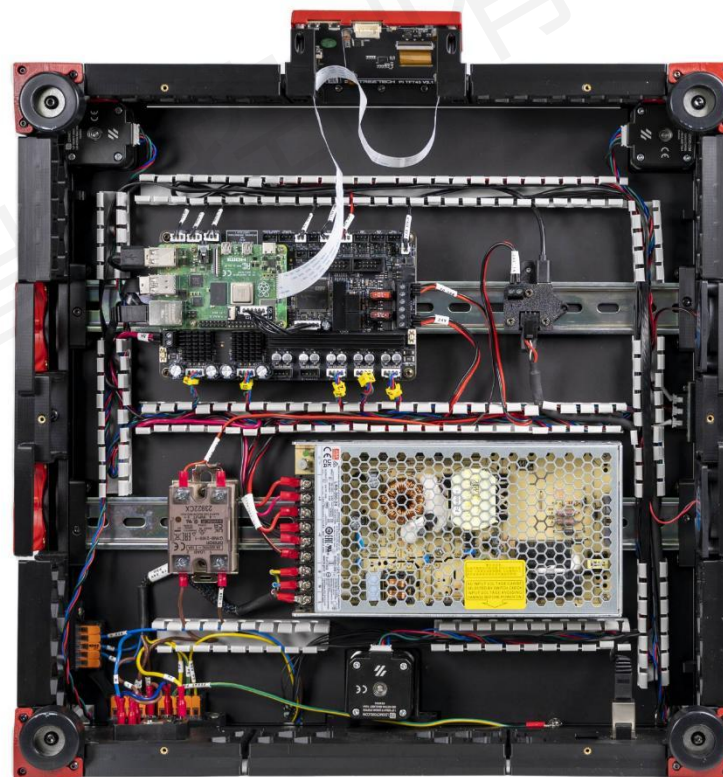
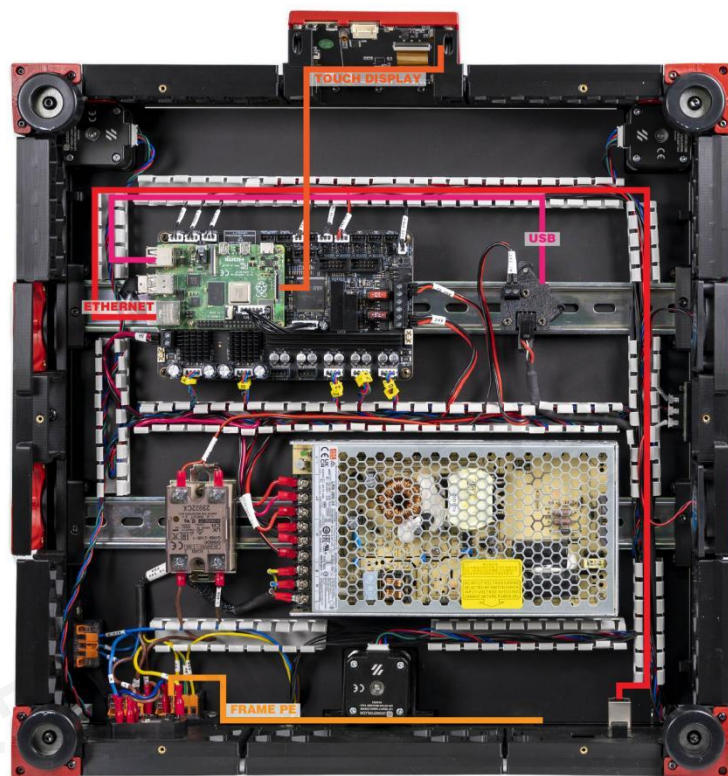
排线、网线、USB与接地线

随附 FFC 排线连接触摸屏与 Raspberry Pi（树莓派）；
排线方向有要求，应按原图确认蓝色背胶方向。

随附网线连接后部网口与 Raspberry Pi（树莓派）。USB 线连接 Raspberry Pi（树莓派）与 USB转接板。

框架接地线 FRAME PE 端接黄色/黄绿 导线连接器 槽。

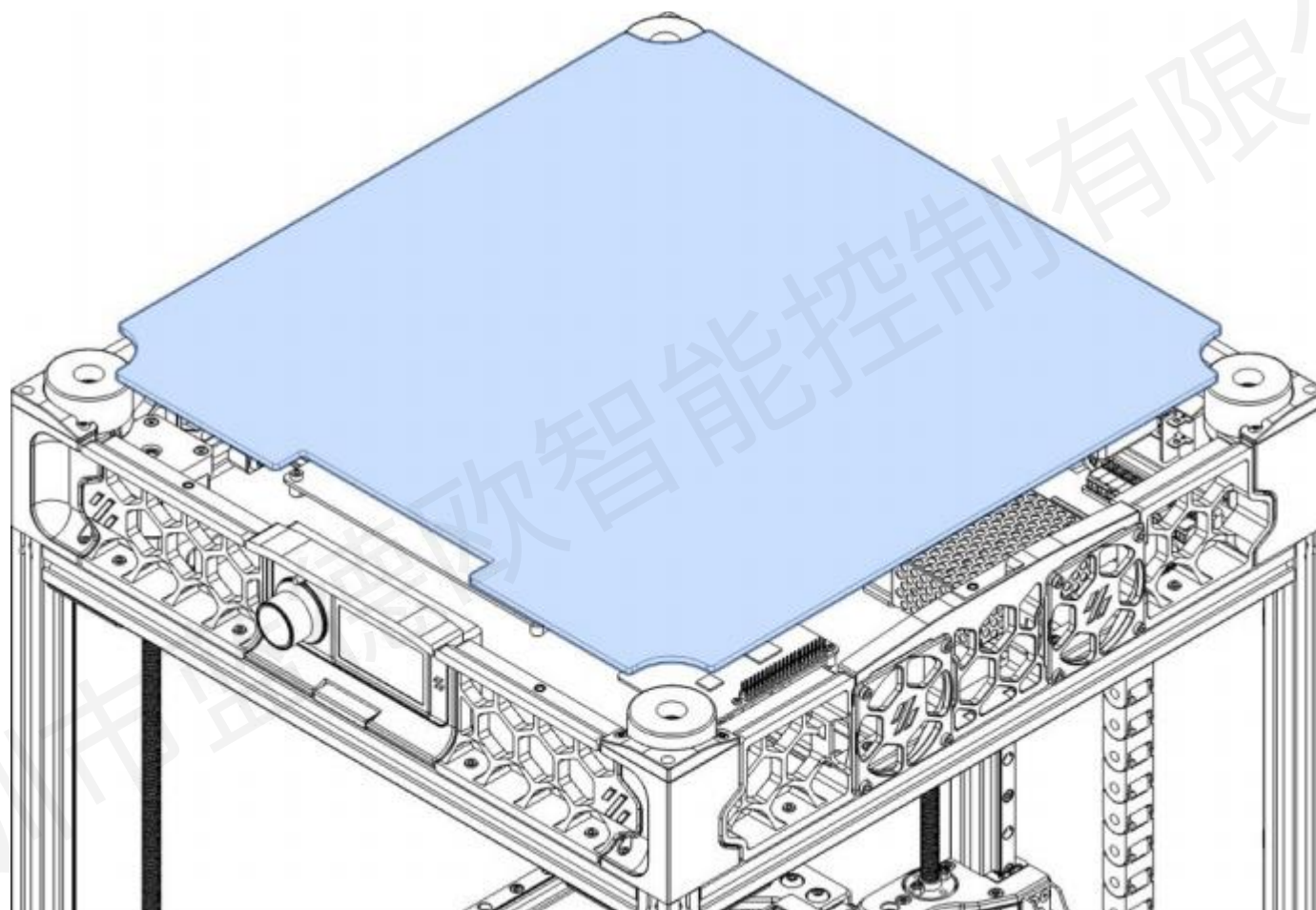
接地线应使用螺丝、垫圈和M5弹珠螺母牢固固定到机架, 确保保护地与打印机框架可靠导通。



面板与装饰细节



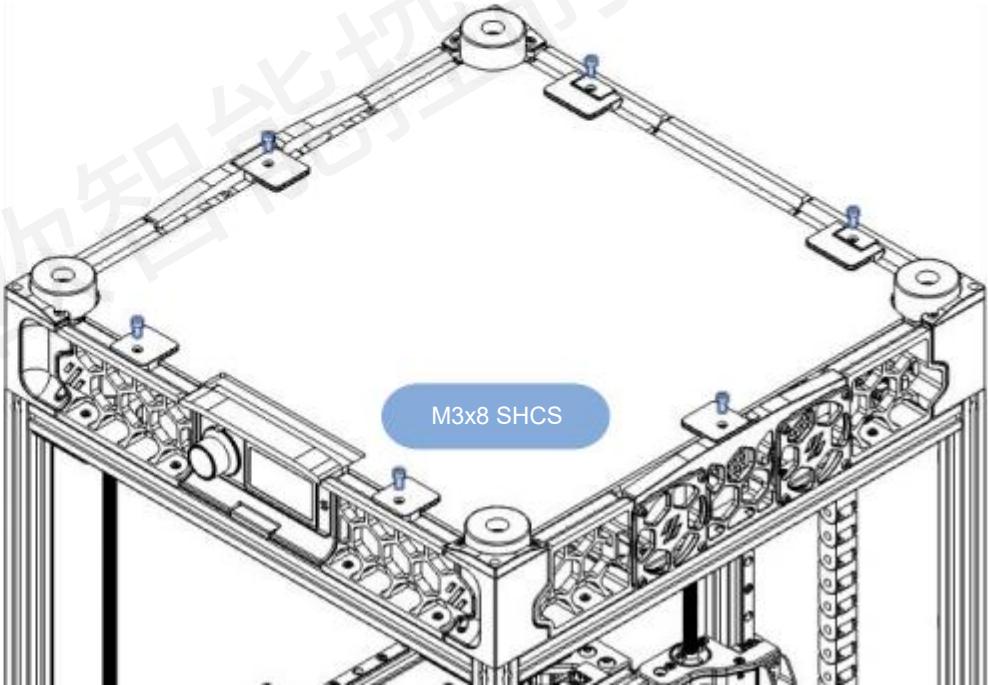
底部面板



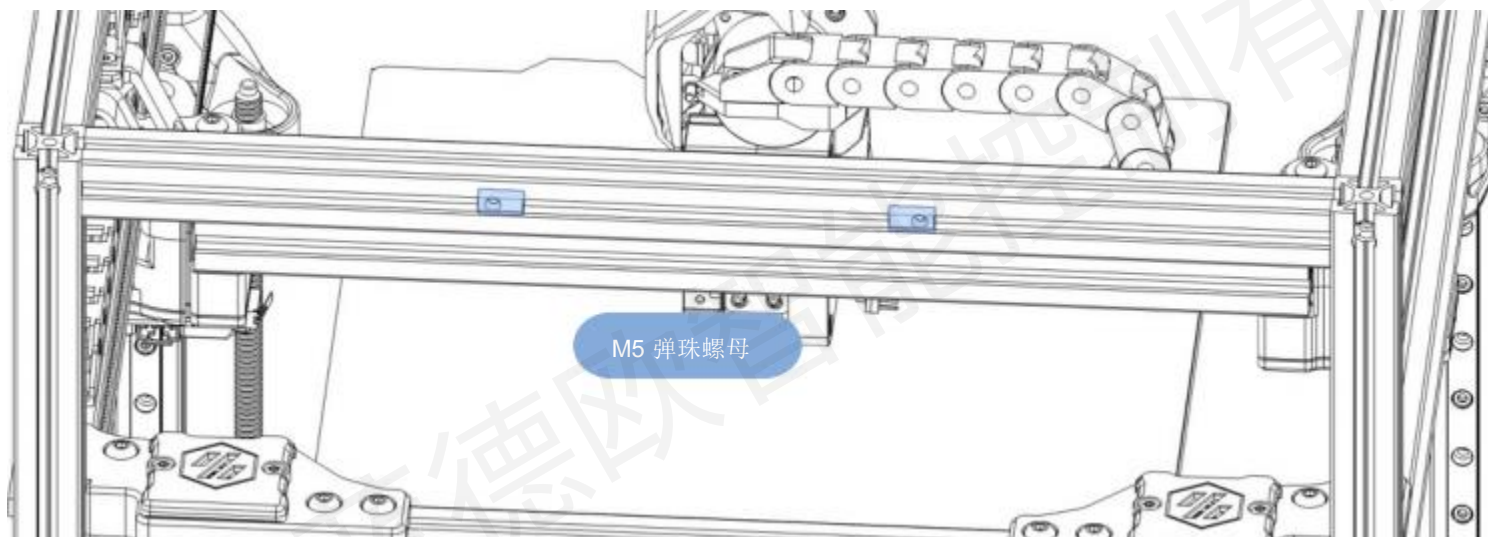
底部面板



粘贴VHB胶带

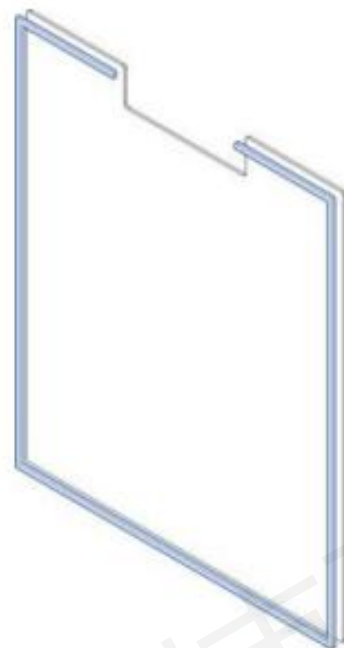


面板

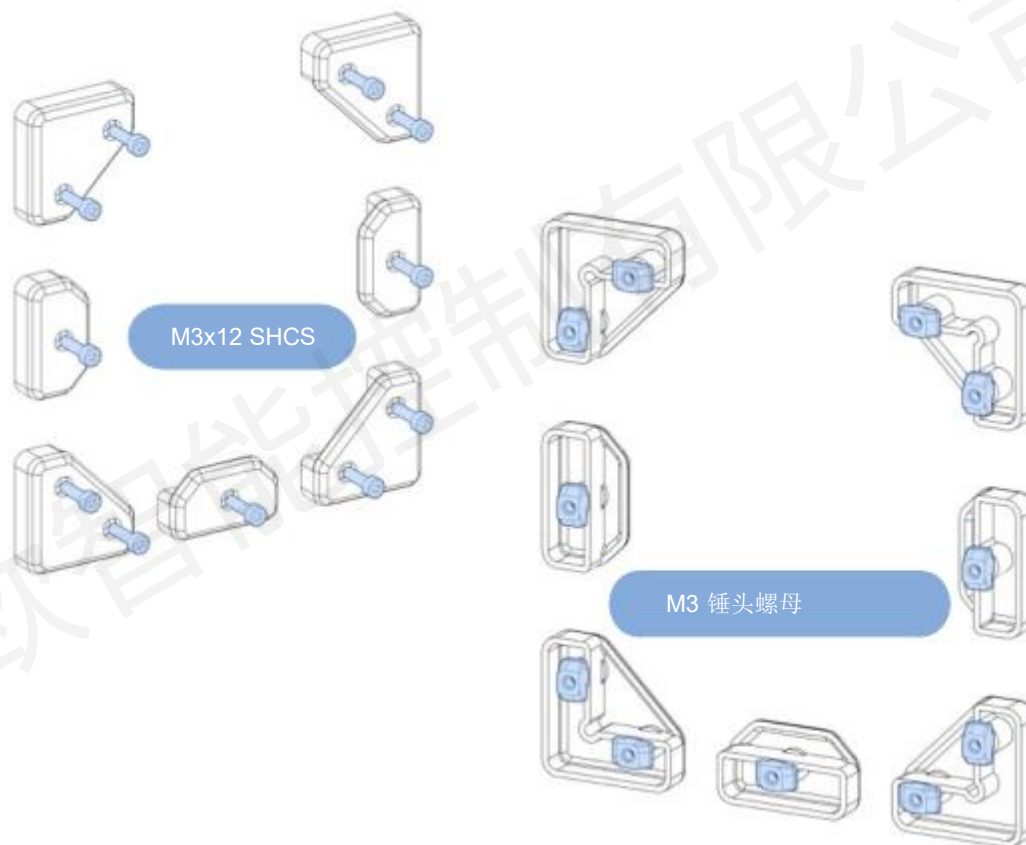


后续装配耗材进料座、料架。建议在面板
安装前预装滚入螺母，避免后期装配受阻

面板

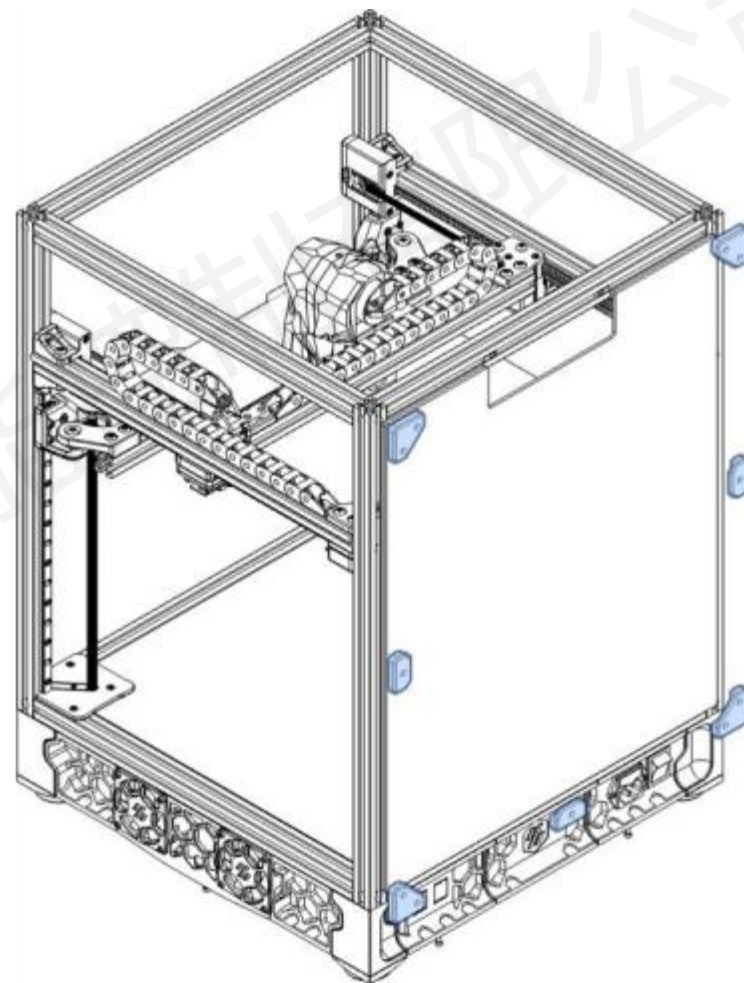
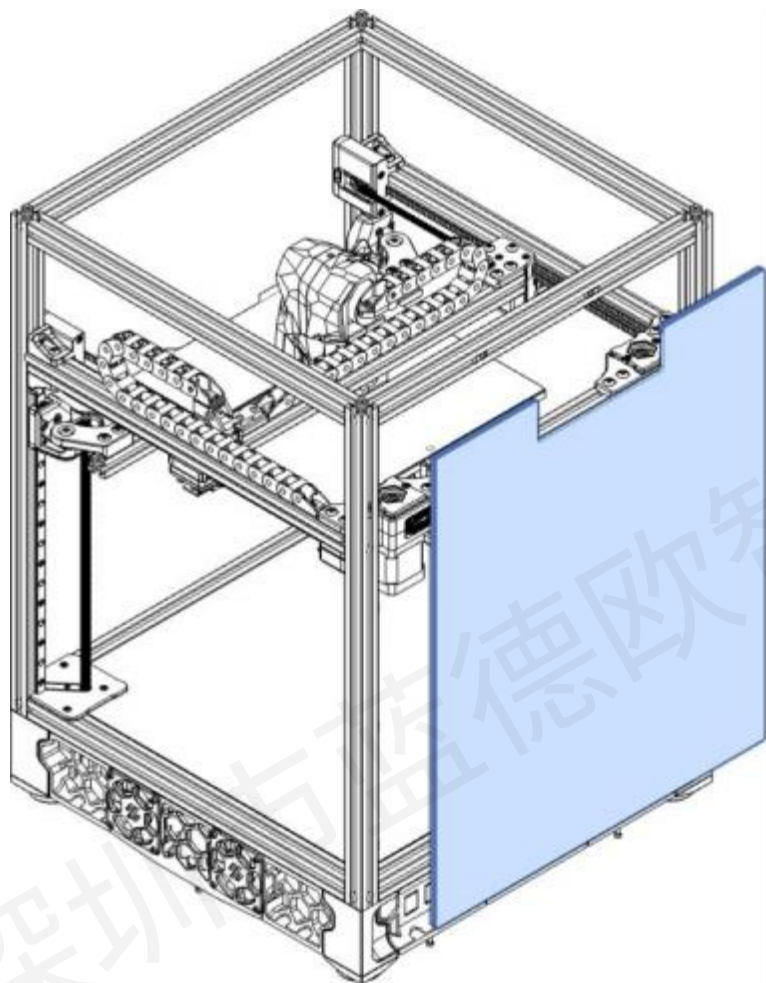


泡沫胶带 3mm

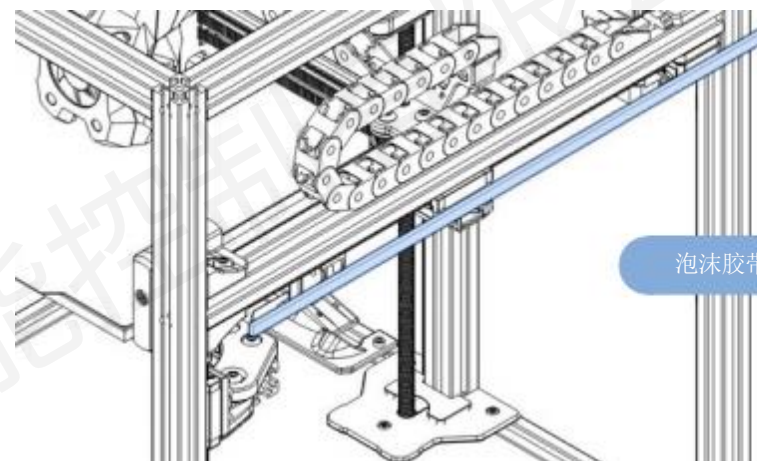
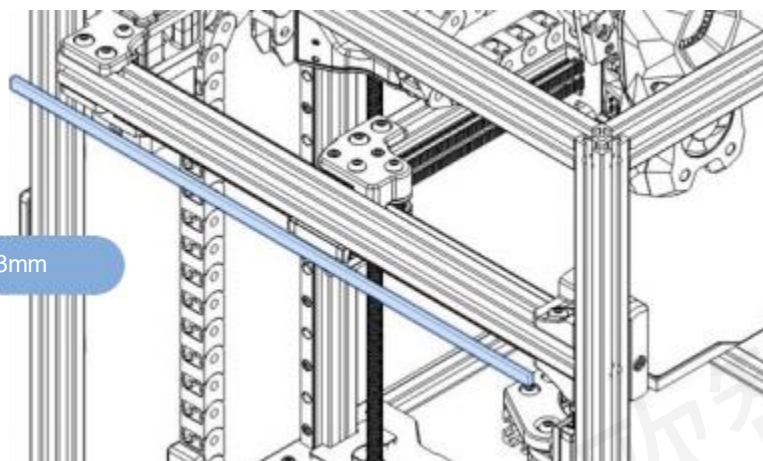


粘贴泡沫胶带

面板



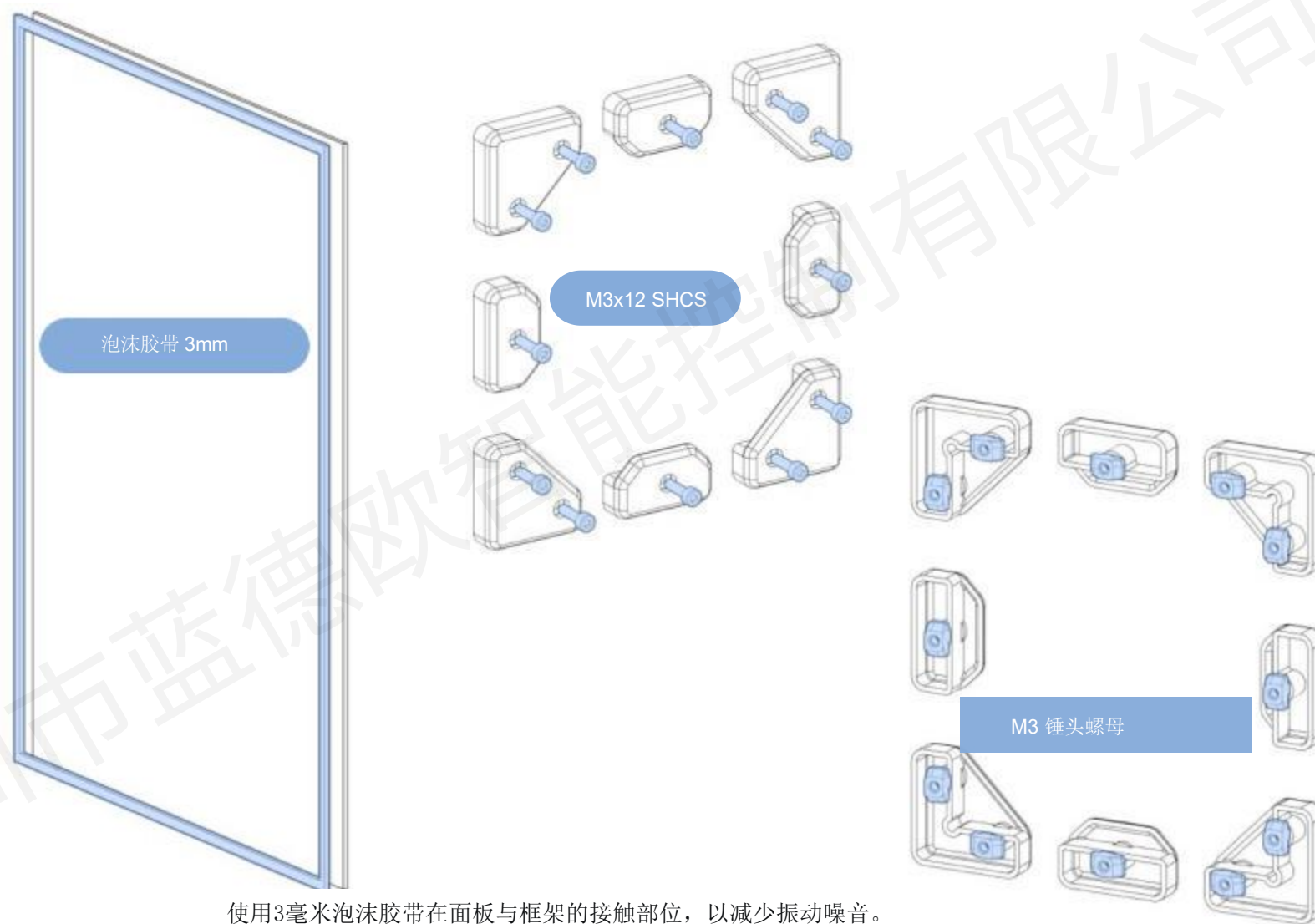
面板



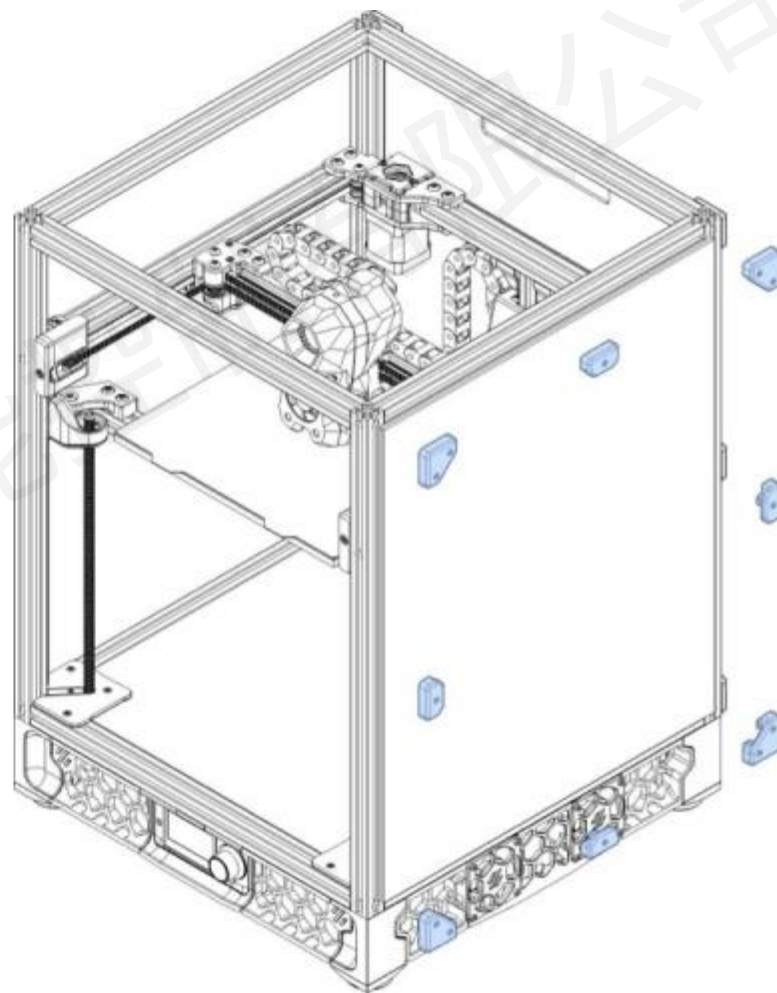
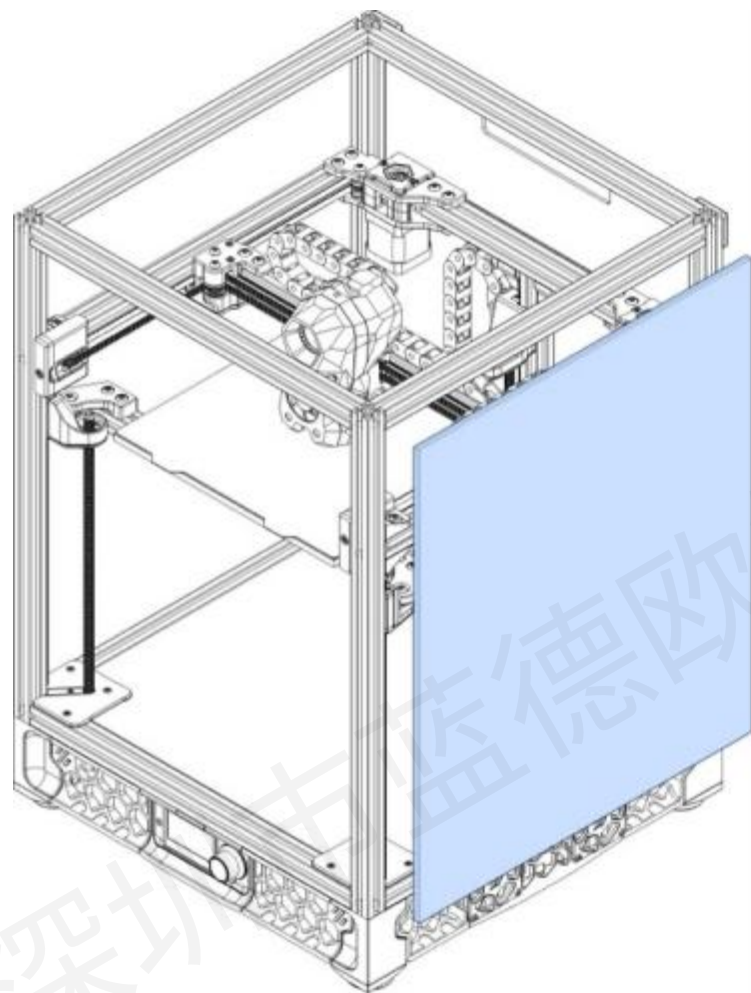
粘贴泡沫胶带

使用3毫米泡沫胶带在面板与框架的接触部位，以减少振动噪音。

面板



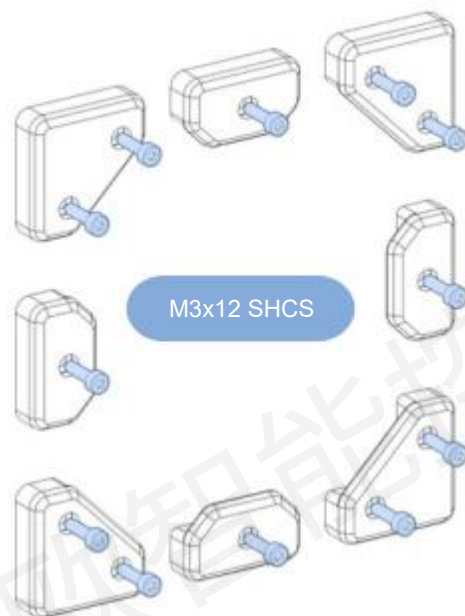
面板



面板



泡沫胶带 3mm



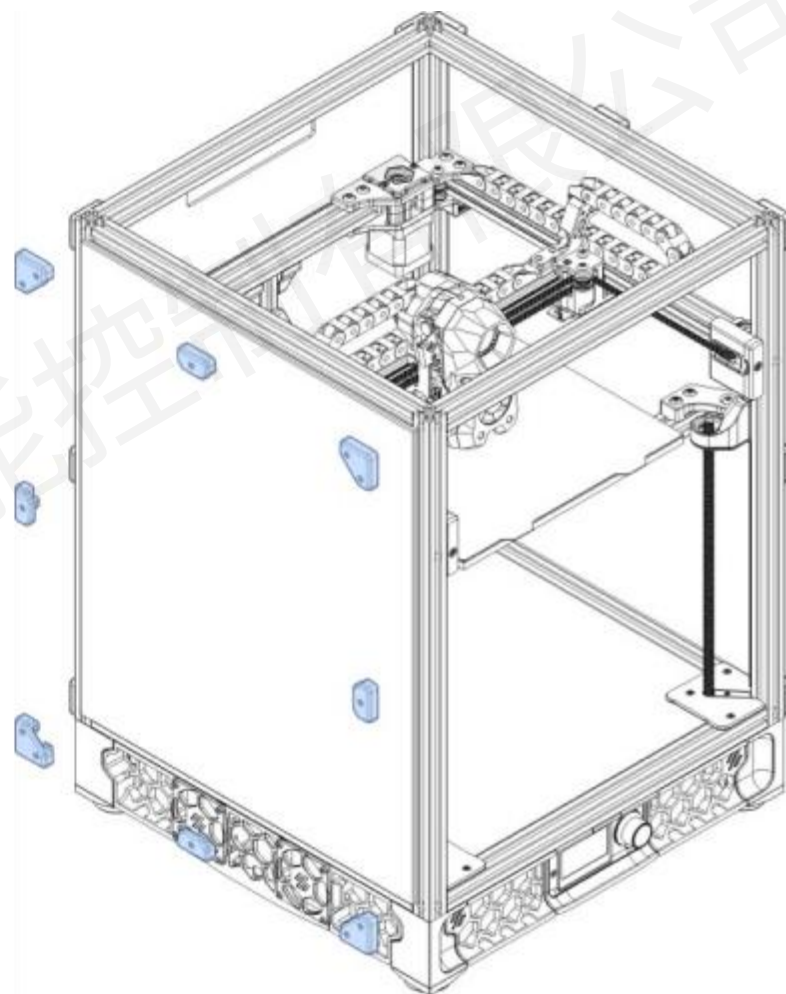
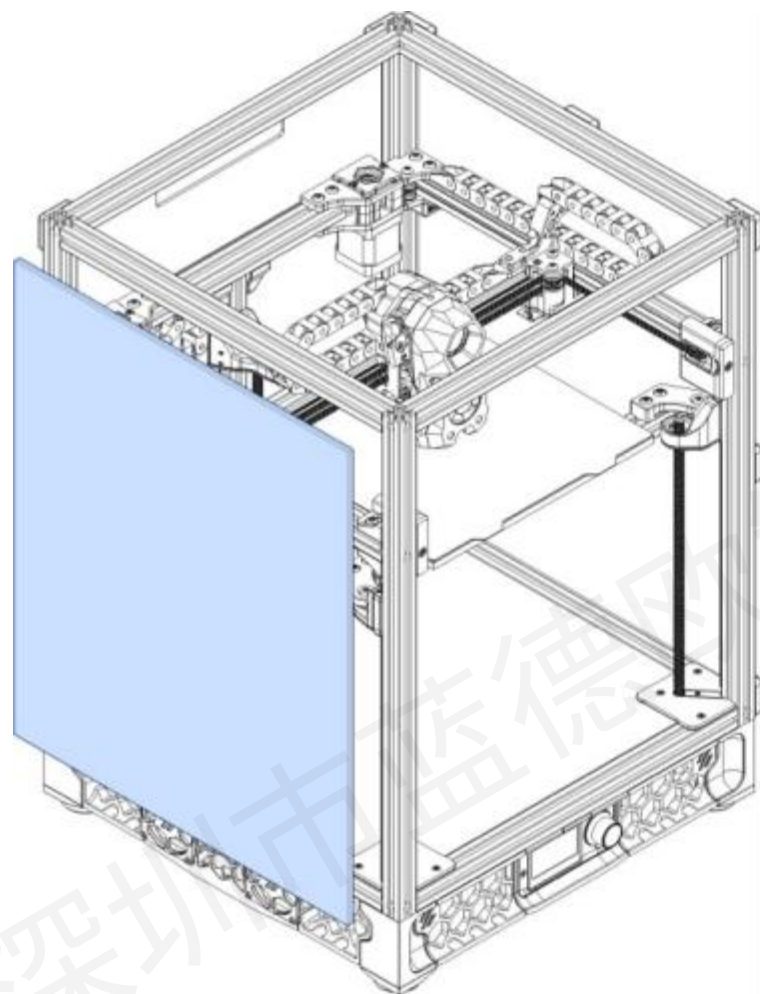
M3x12 SHCS



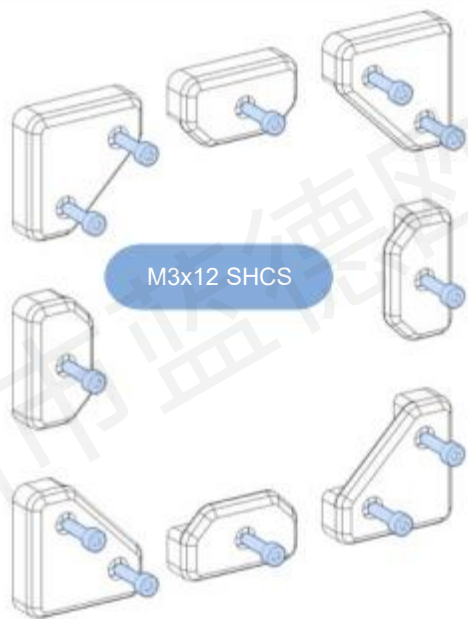
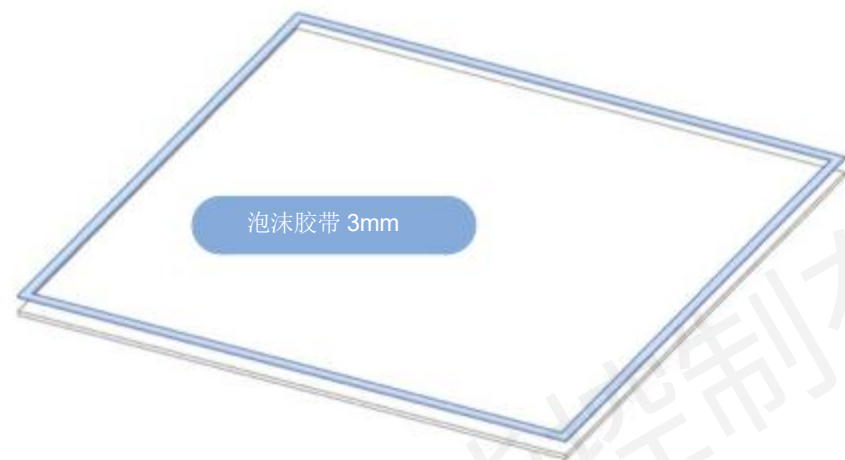
M3 锤头螺母

使用3毫米泡沫胶带在面板与框架的接触部位，以减少振动噪音。

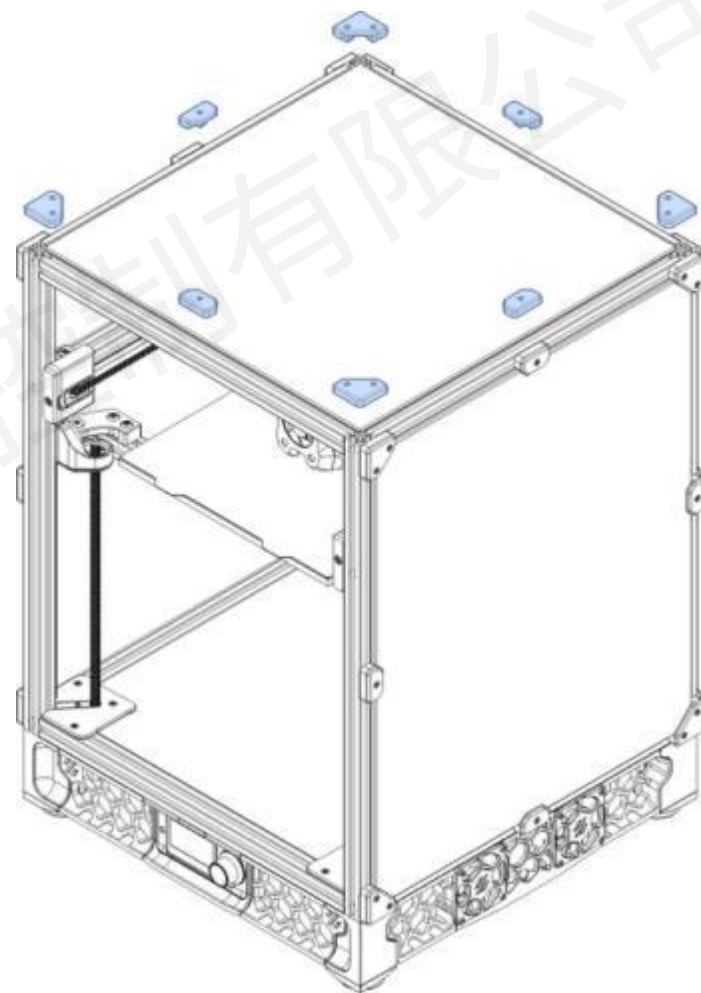
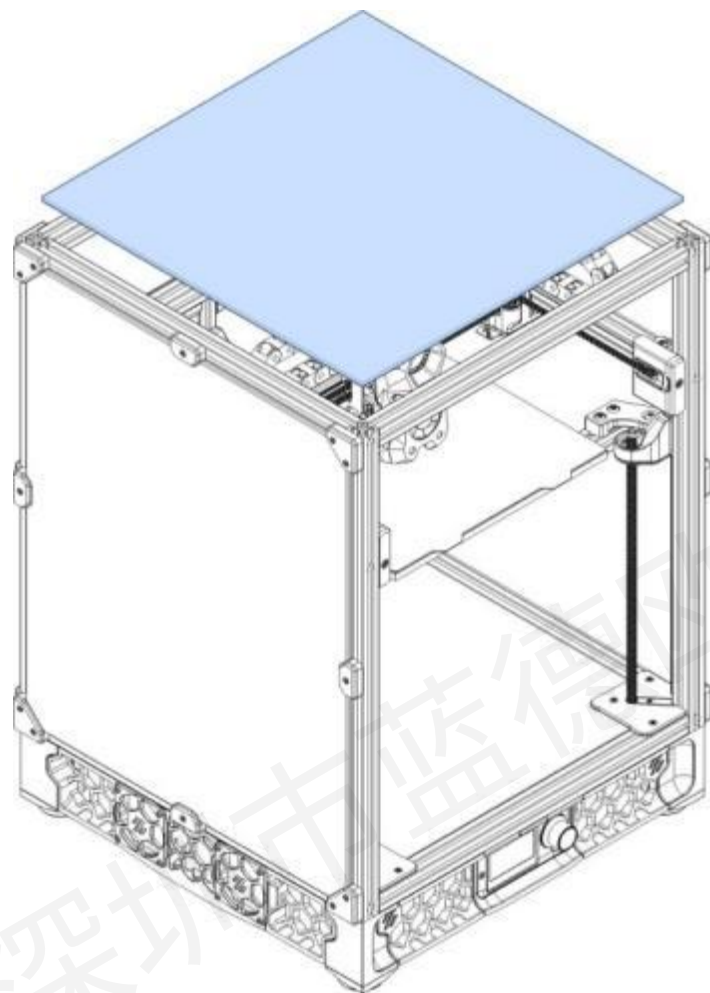
面板



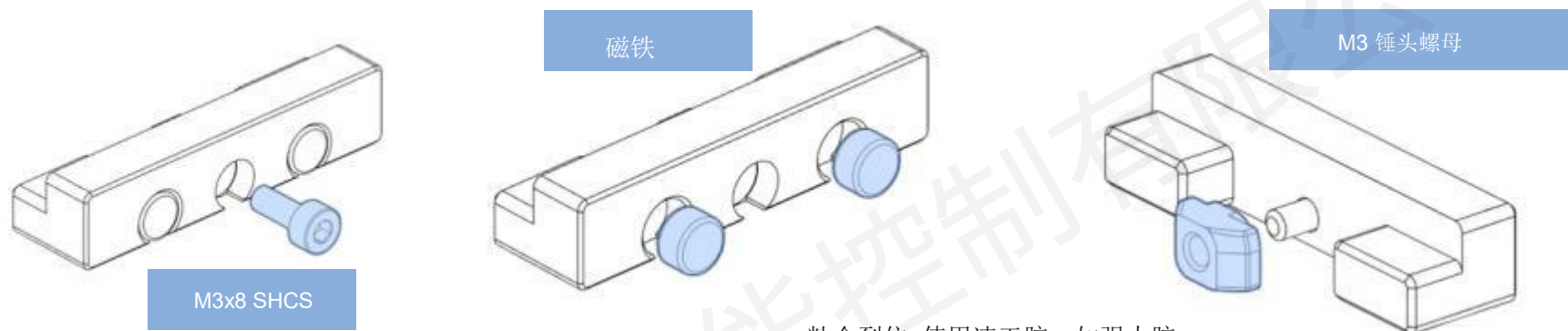
面板



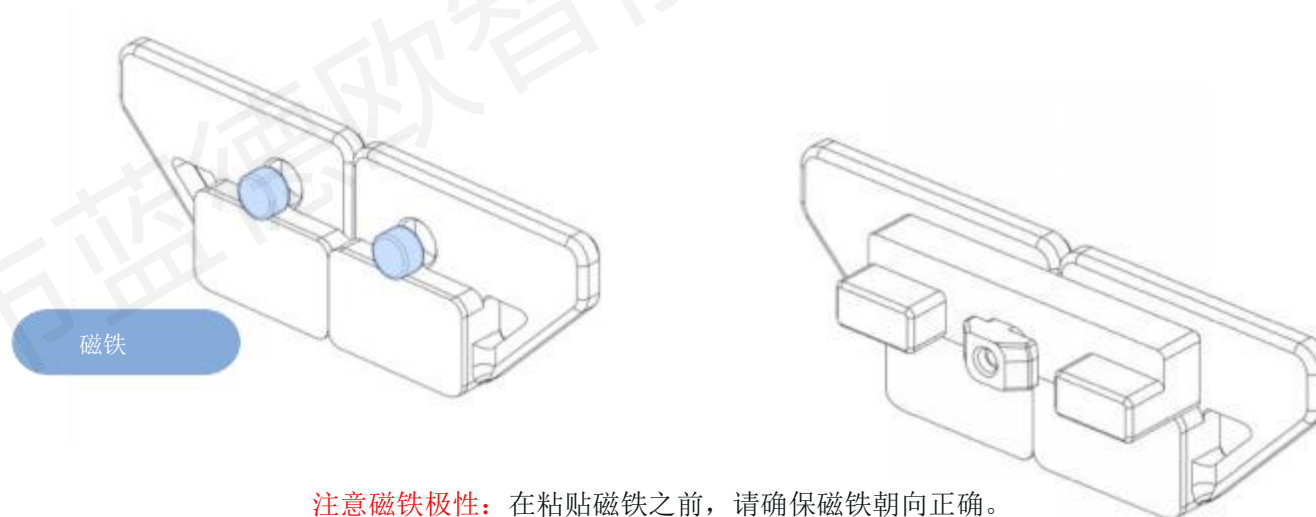
面板



面板

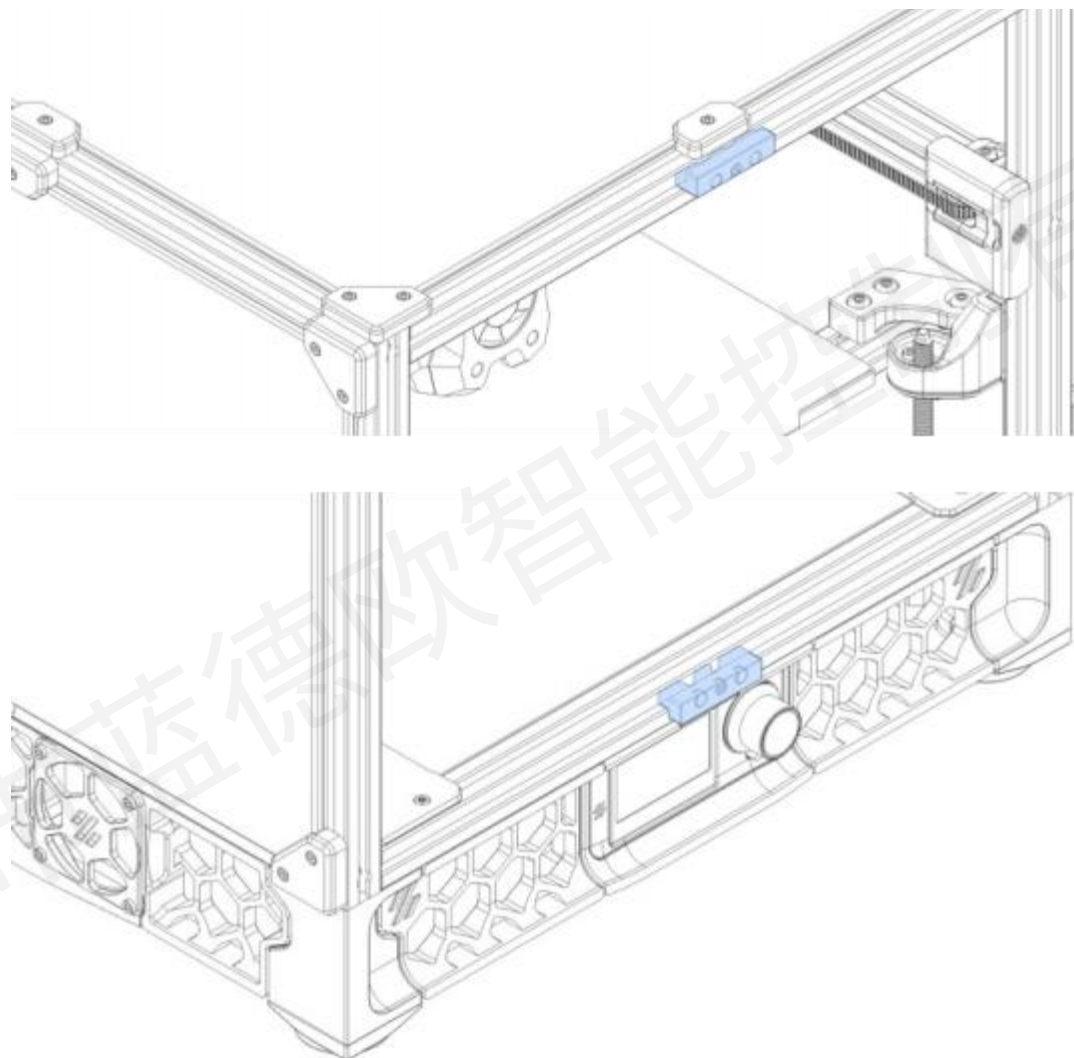


粘合到位 使用速干胶，如强力胶

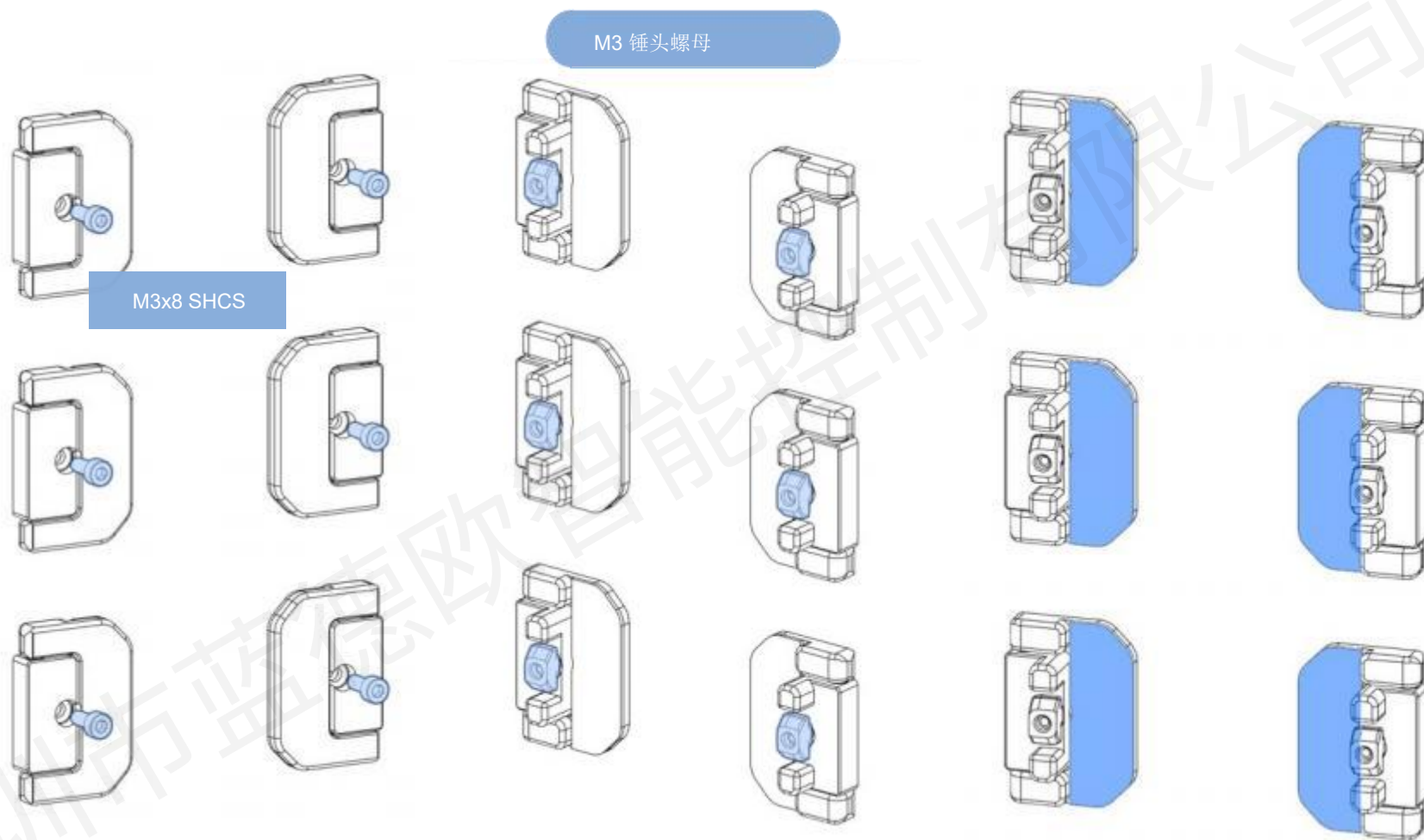


注意磁铁极性：在粘贴磁铁之前，请确保磁铁朝向正确。

面板

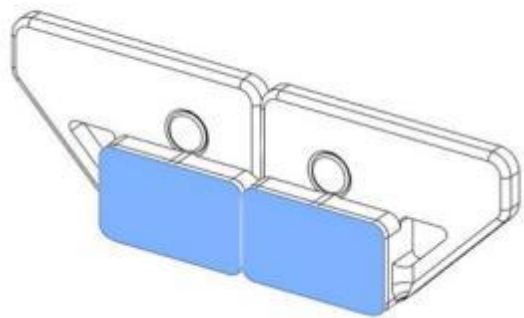


面板

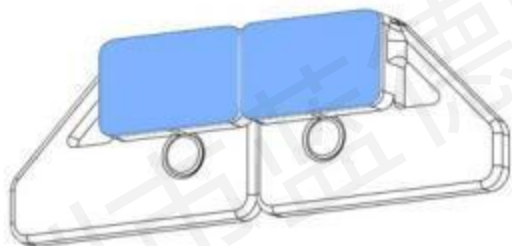


粘贴VHB胶带

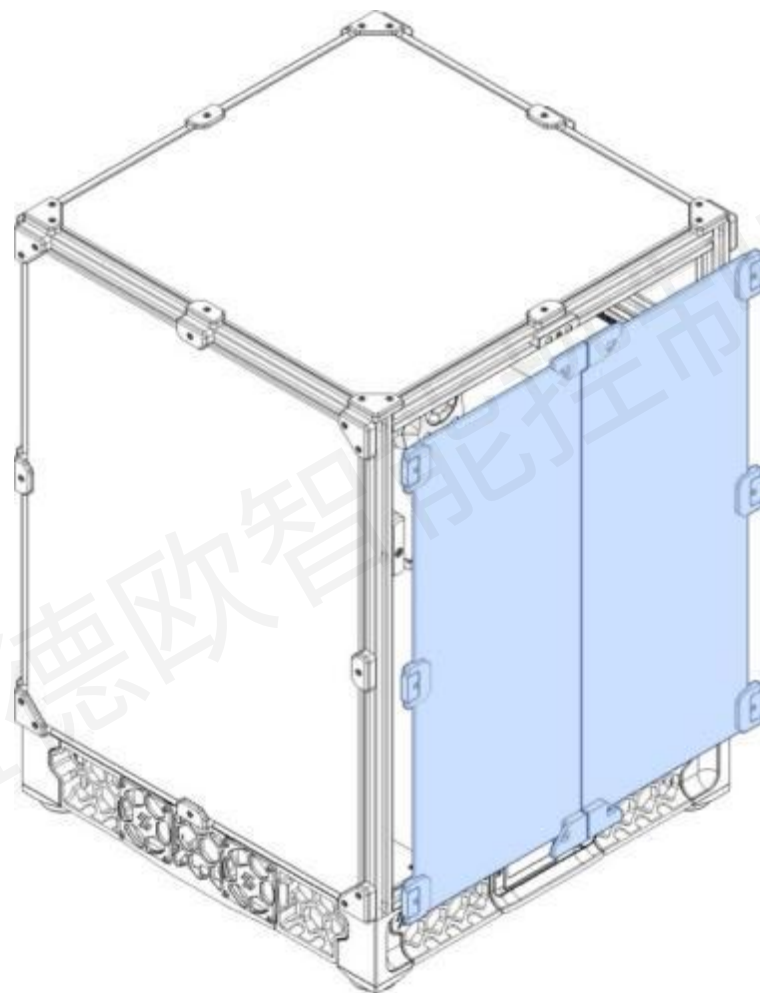
面板



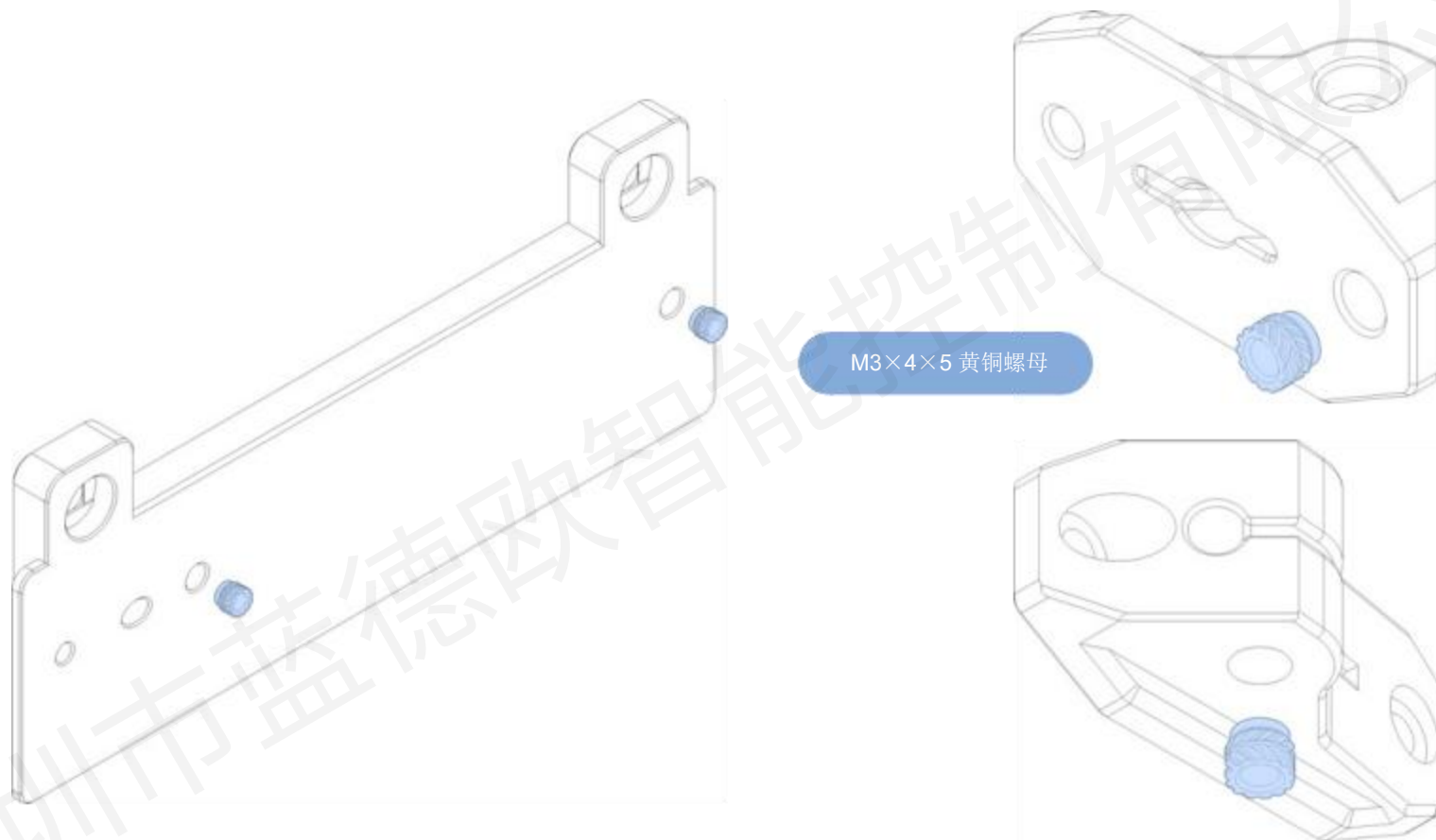
粘贴VHB胶带



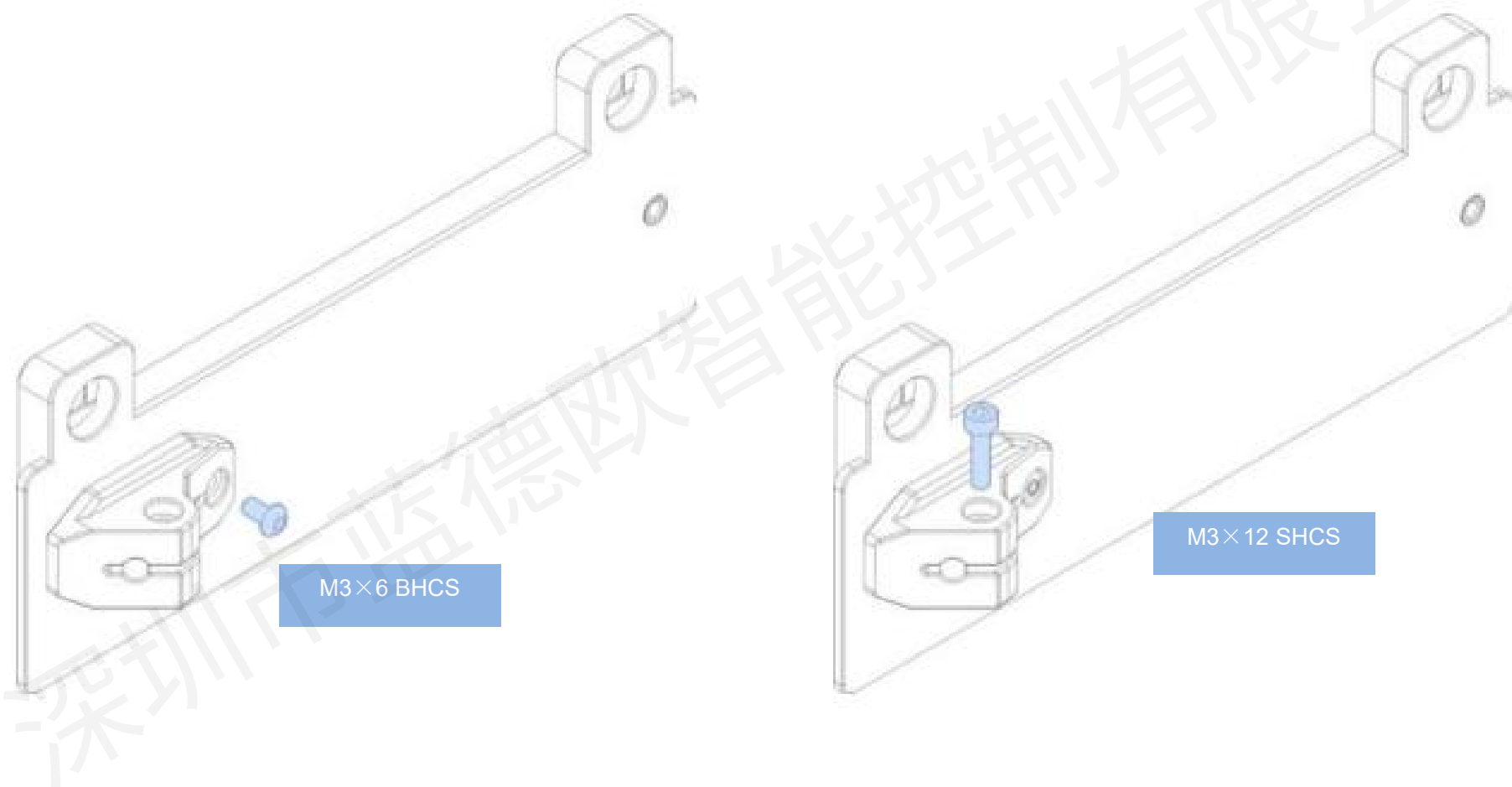
面板



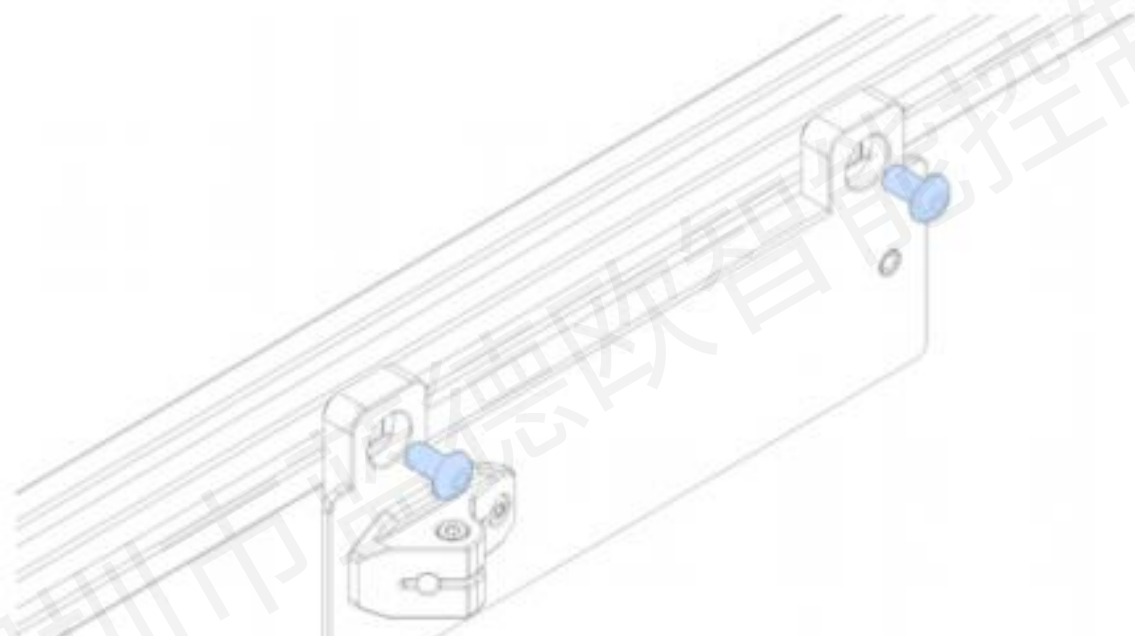
PTFE 进料接头



PTFE 进料接头

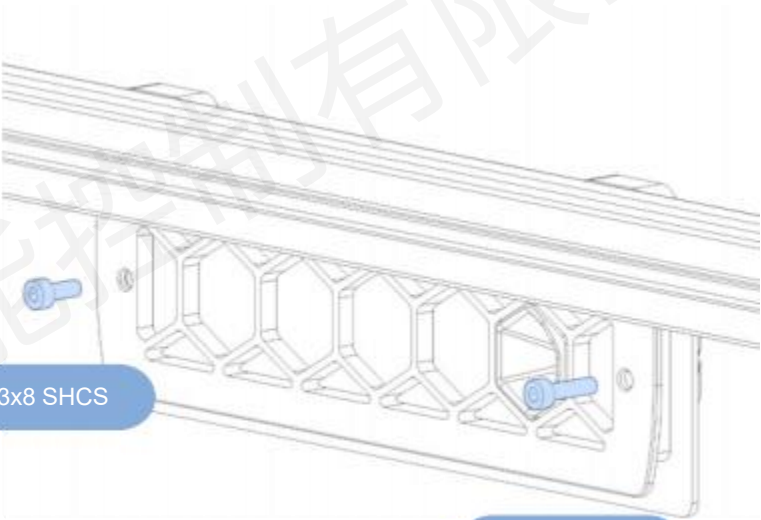
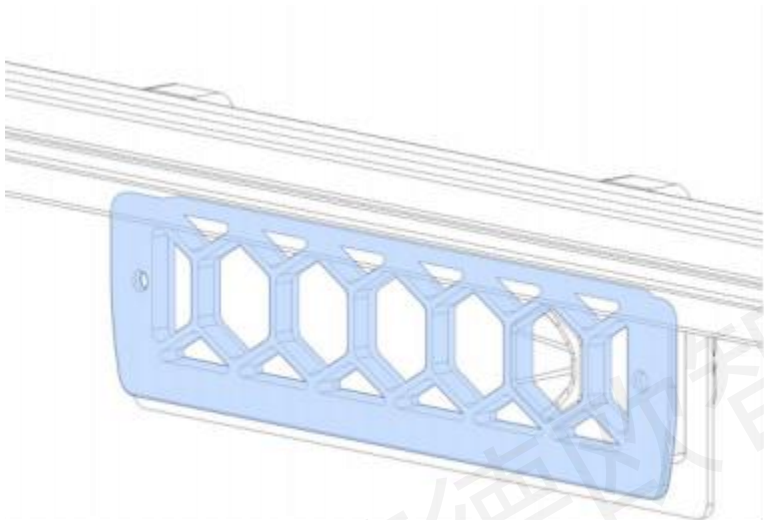


PTFE 进料接头

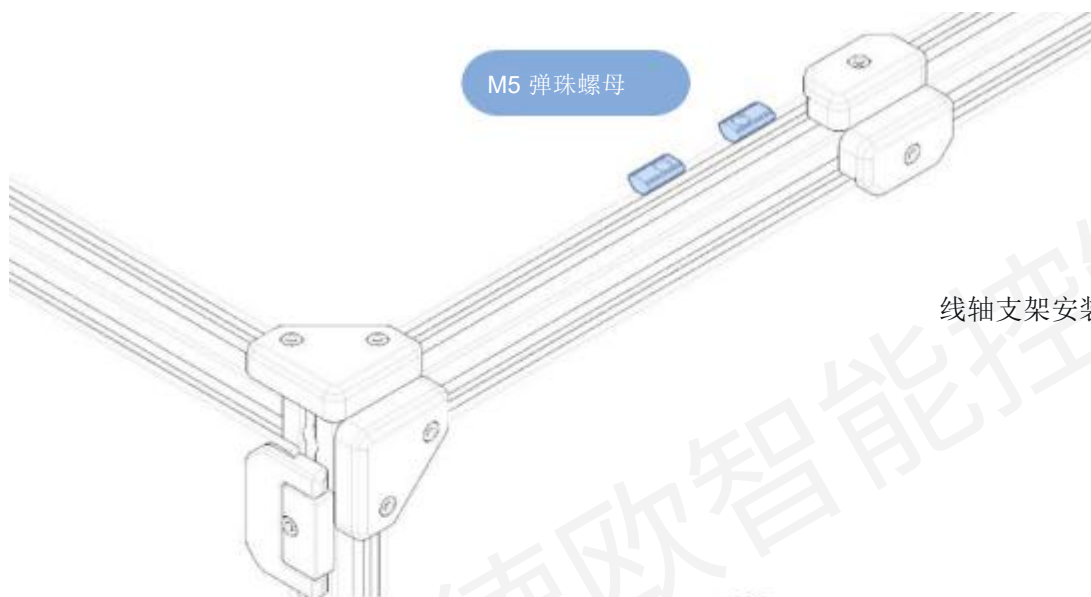


M5x10 BHCS

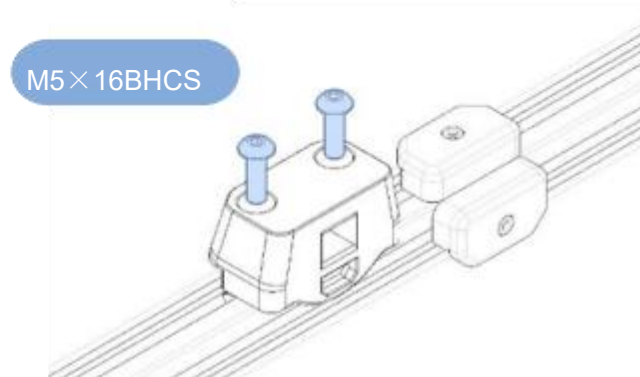
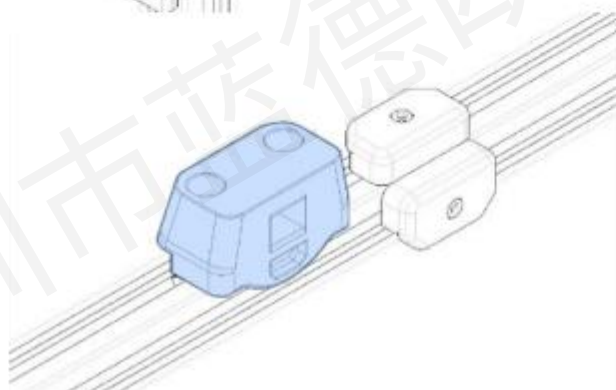
PTFE 进料接头



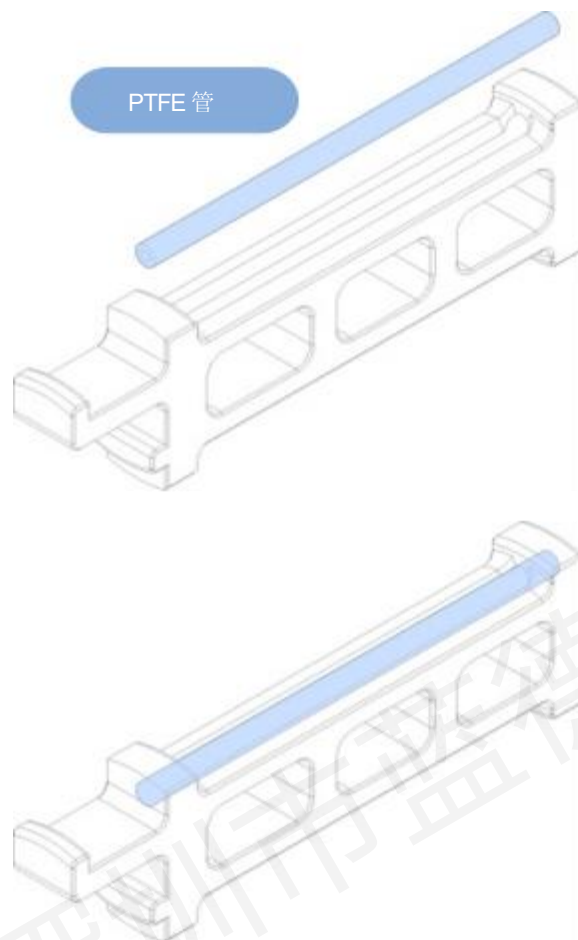
耗材料架



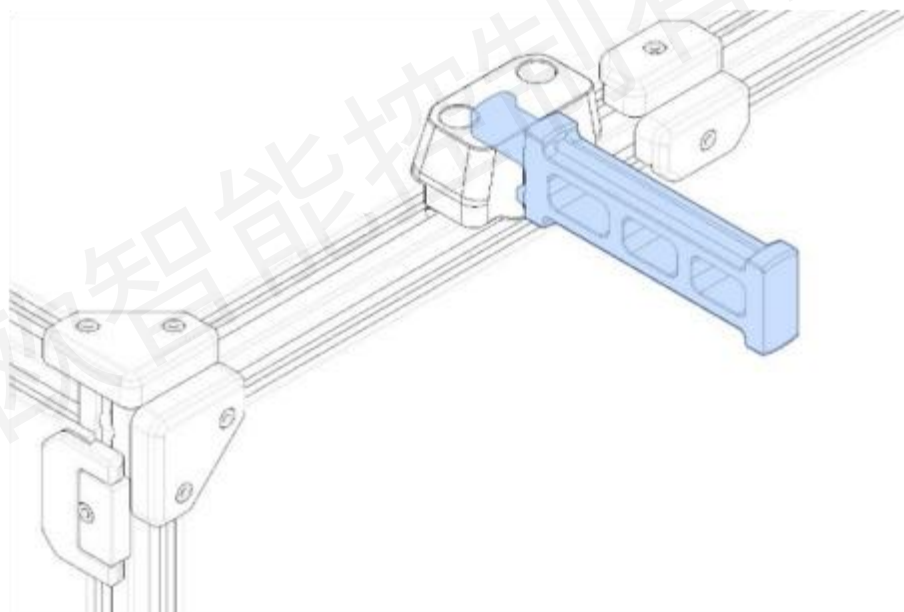
线轴支架安装在打印机右侧顶部的挤出部分，靠近前面。



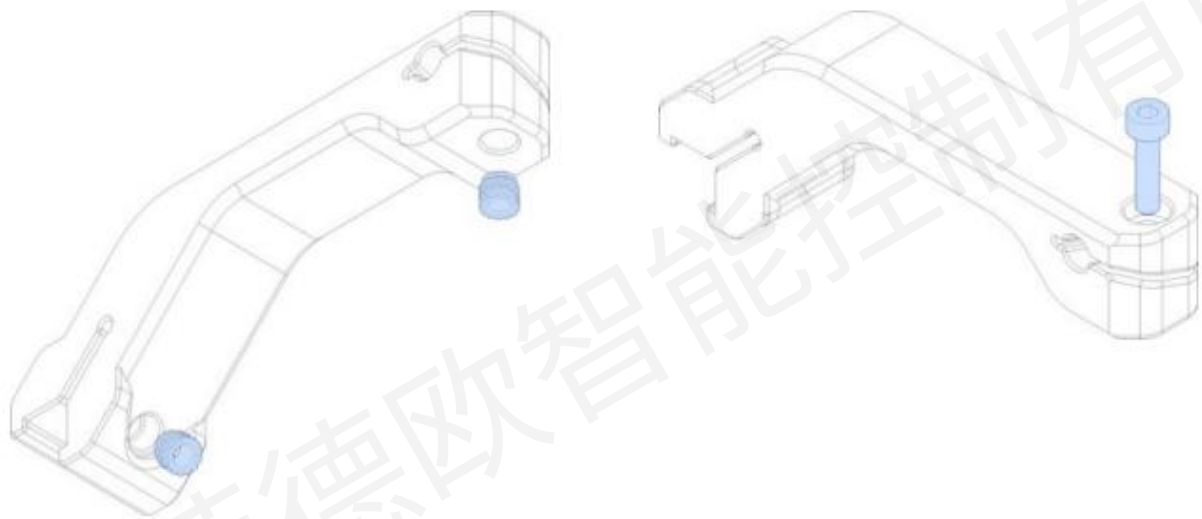
耗材料架



插入PTFE管 使用内径为2毫米的86毫米PTFE管，
略微弯曲管道，使其滑入安装孔中。

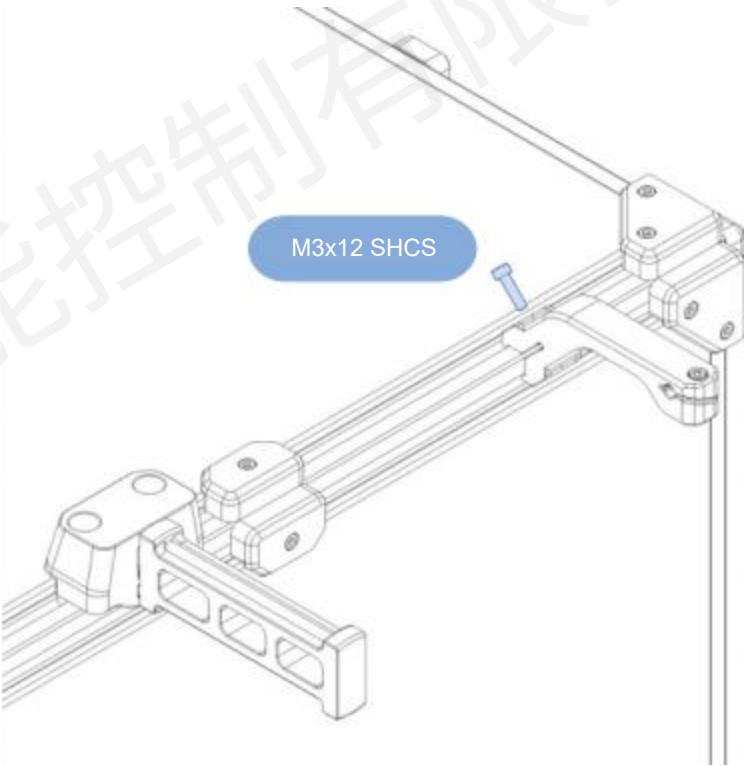
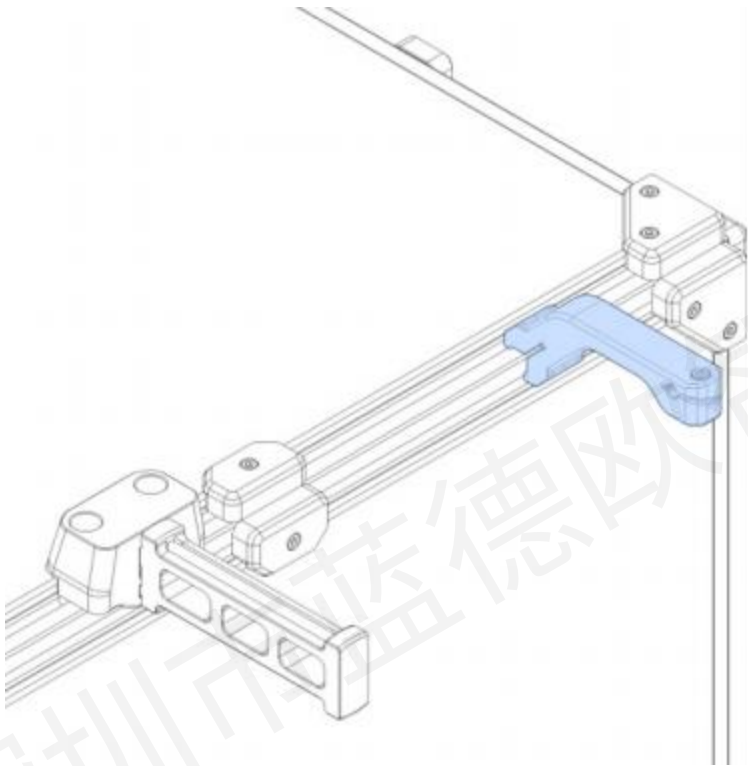


耗材料架

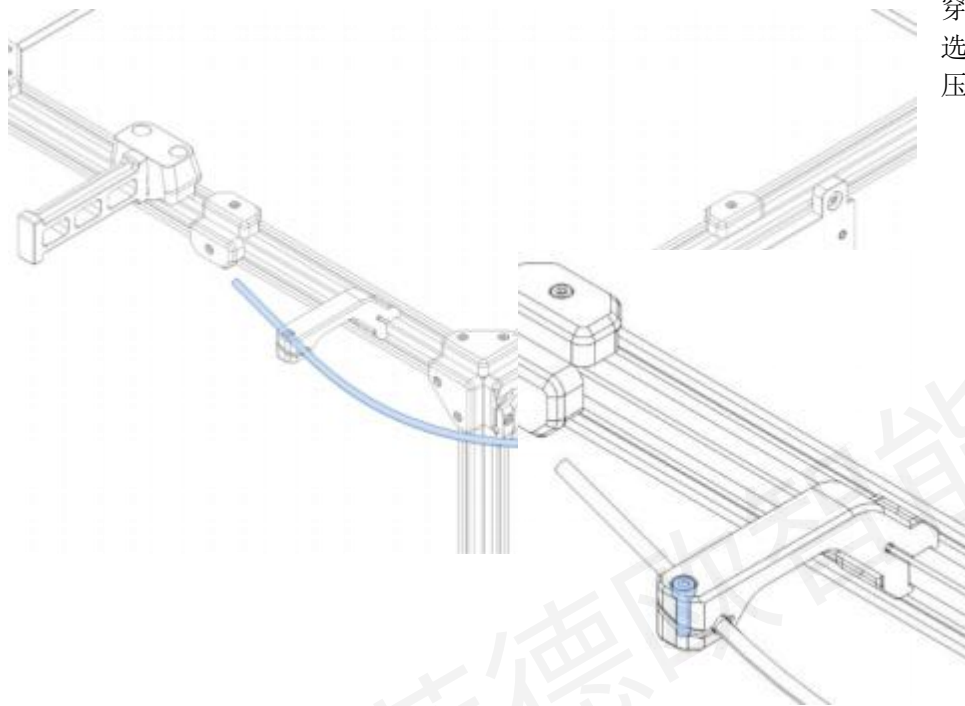


M3×4×5 黄铜螺母

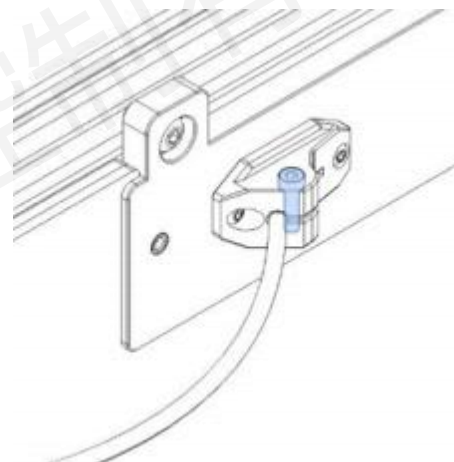
M3x12 SHCS



耗材料架



将 PTFE 导管作为一整根连续管材，从鲍登管固定座铺设至打印头，导管穿过进料接头实现定位固定。耗材路径应避免出现急弯。反向鲍登管路请选用内径 3mm、外径 4mm 的 PTFE 导管。拧紧导管锁紧螺丝时，切勿挤压变形导管。





网站

GitHub

文档

Discord

ldomotion.com

github.com/vorondesign

docs.ldomotors.com

discord.gg/pPtAyGqhHx



