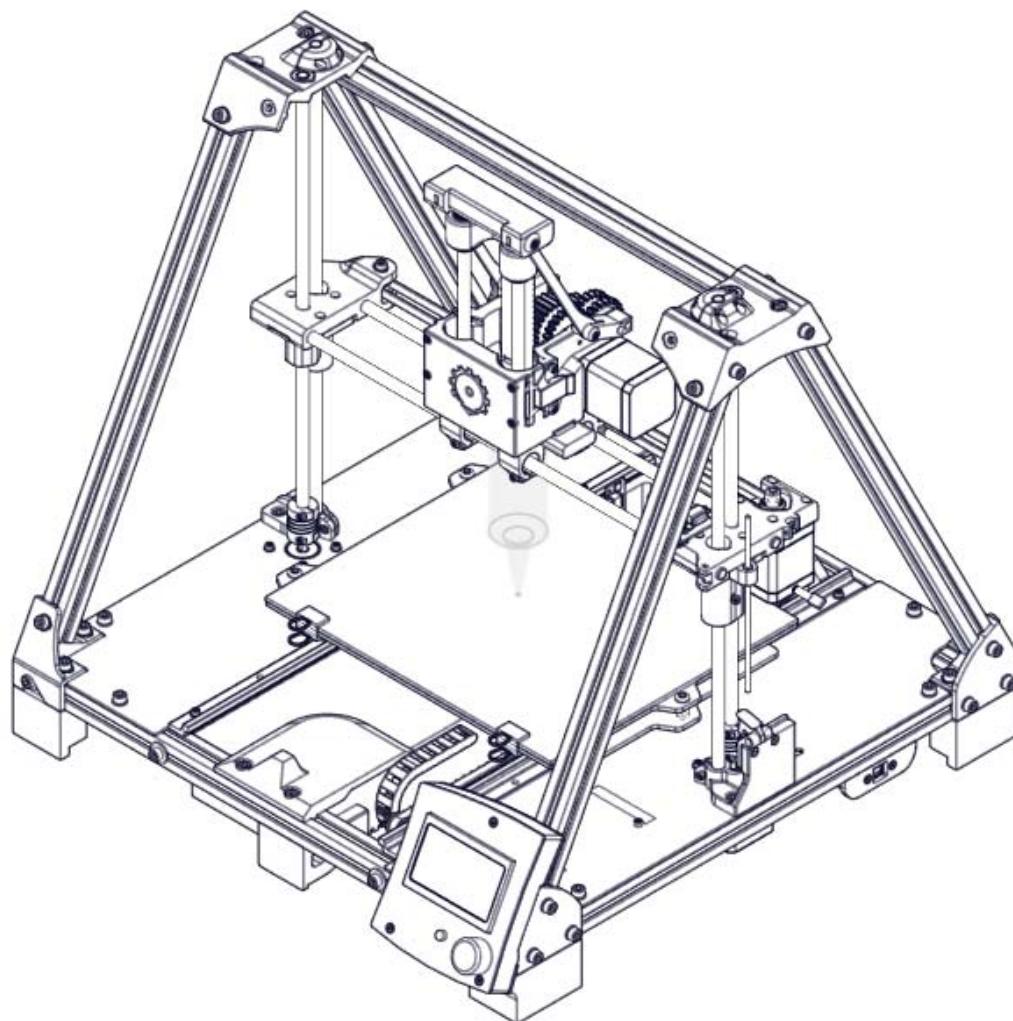




# PASTE EXTRUDER

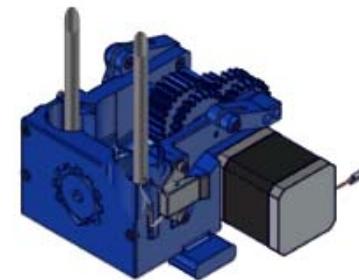
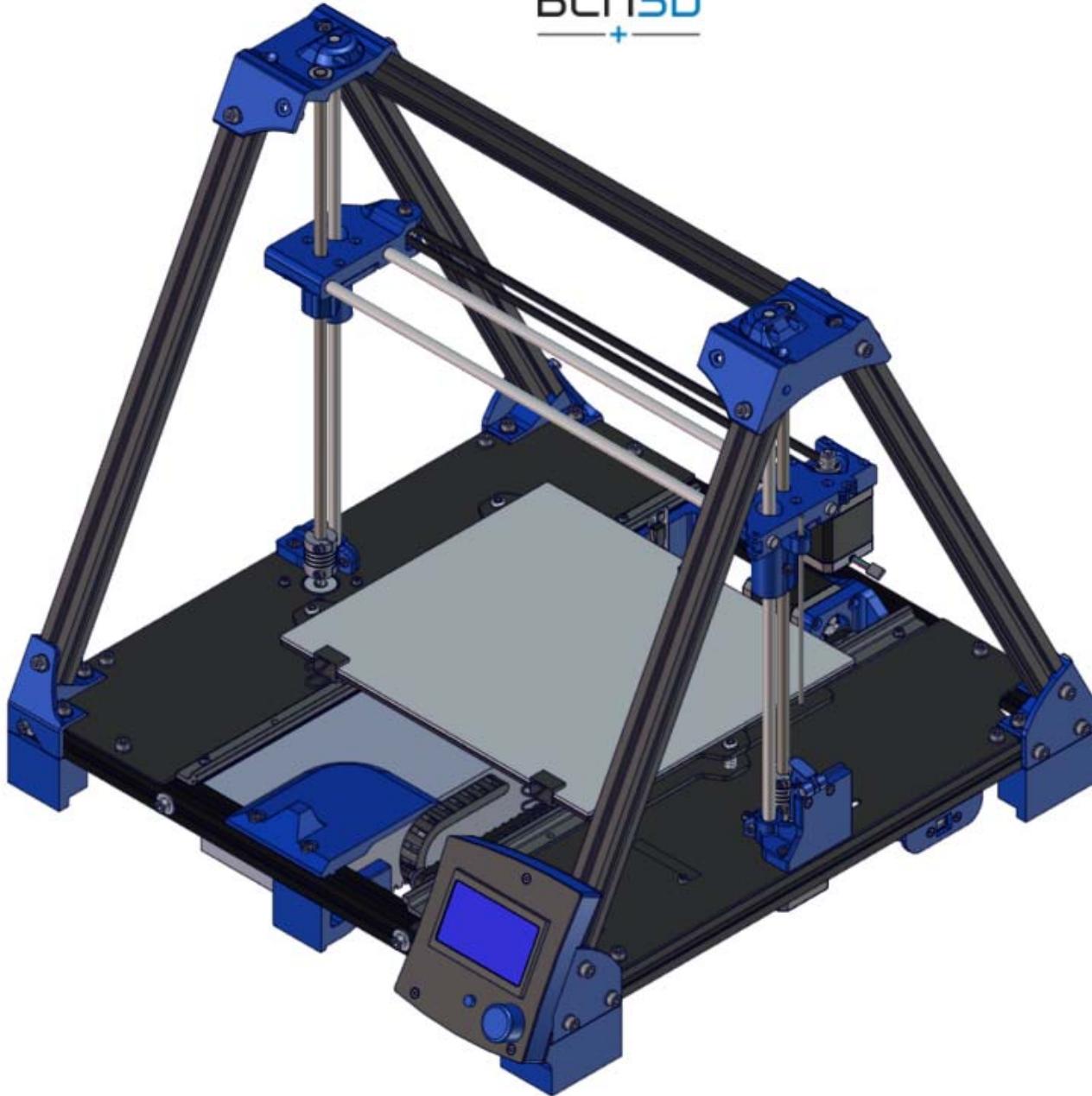
## Assembly Guide





# PASTE EXTRUDER

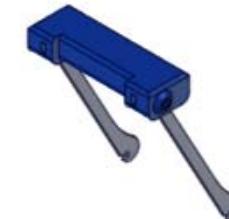
## Assembly Guide



Extruder body



Plunger



Tirantes



Carriage

Cambios en la impresora

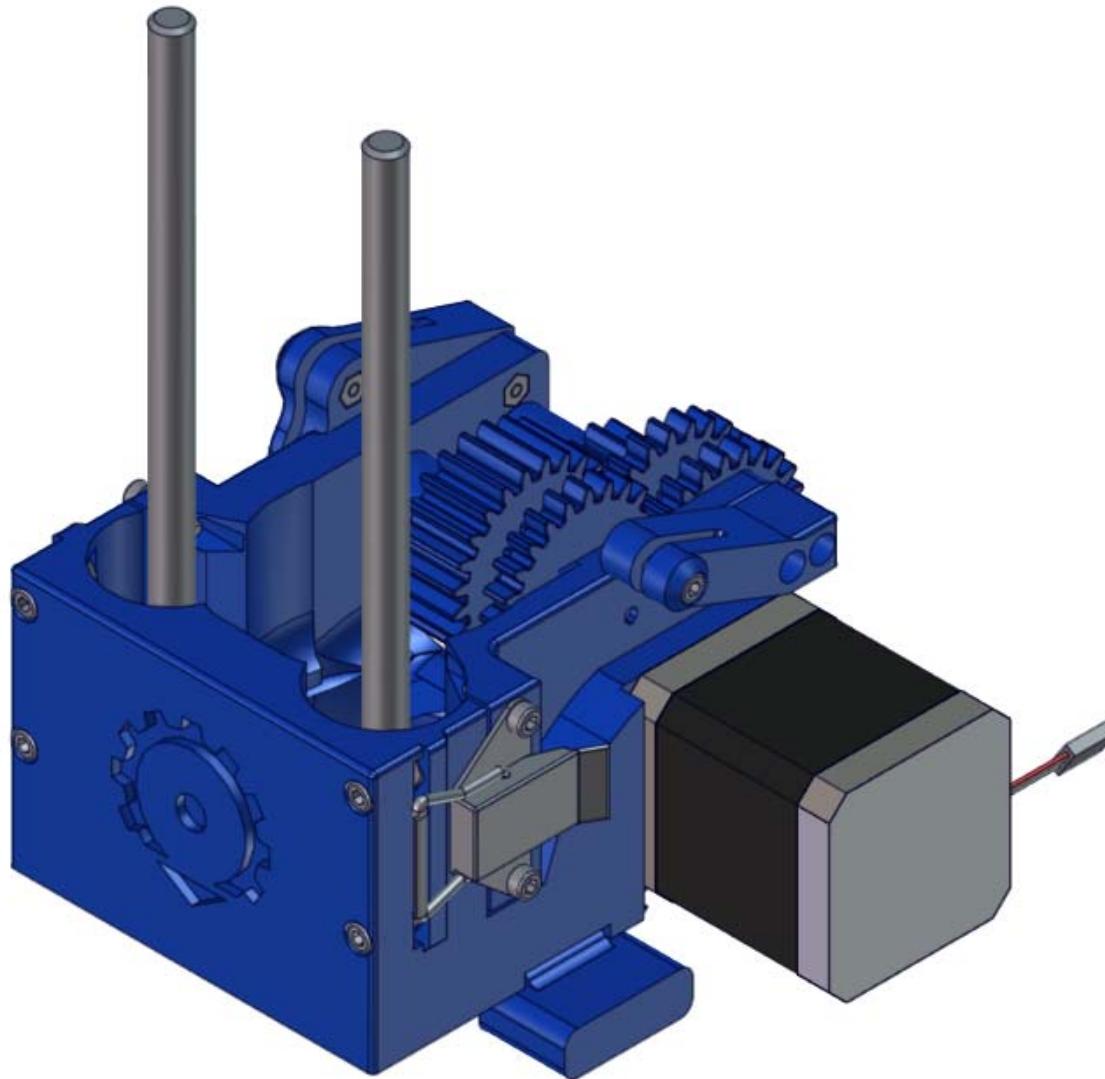
Ensamblaje de los modulos

Carga del firmware



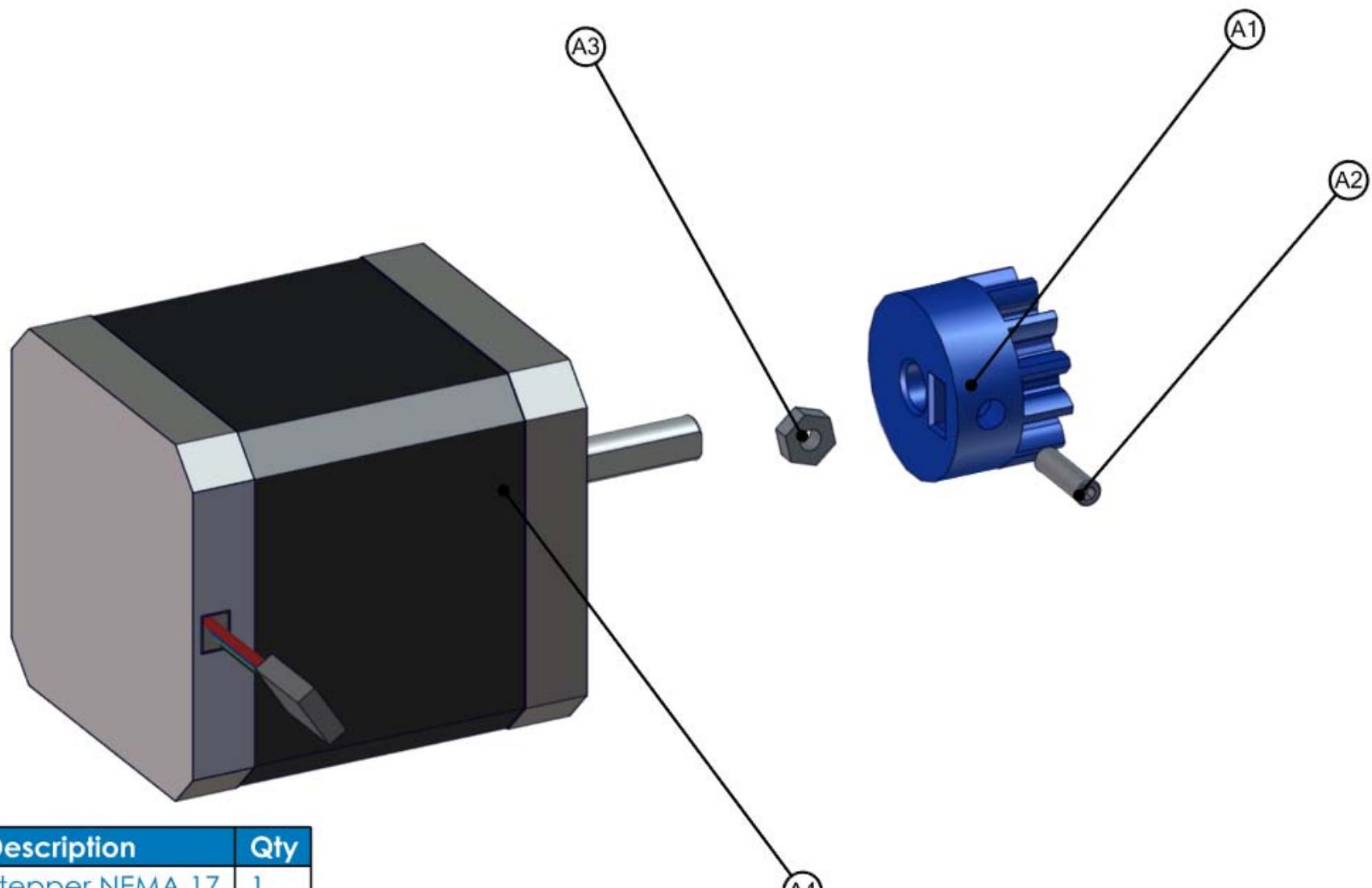
# PASTE EXTRUDER

## Extruder body



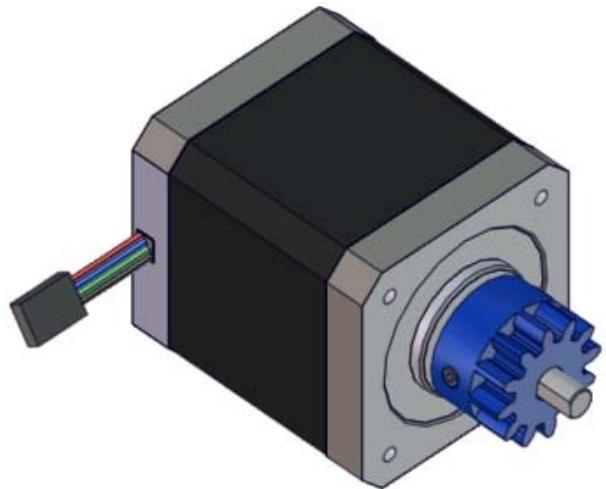
Main View

1

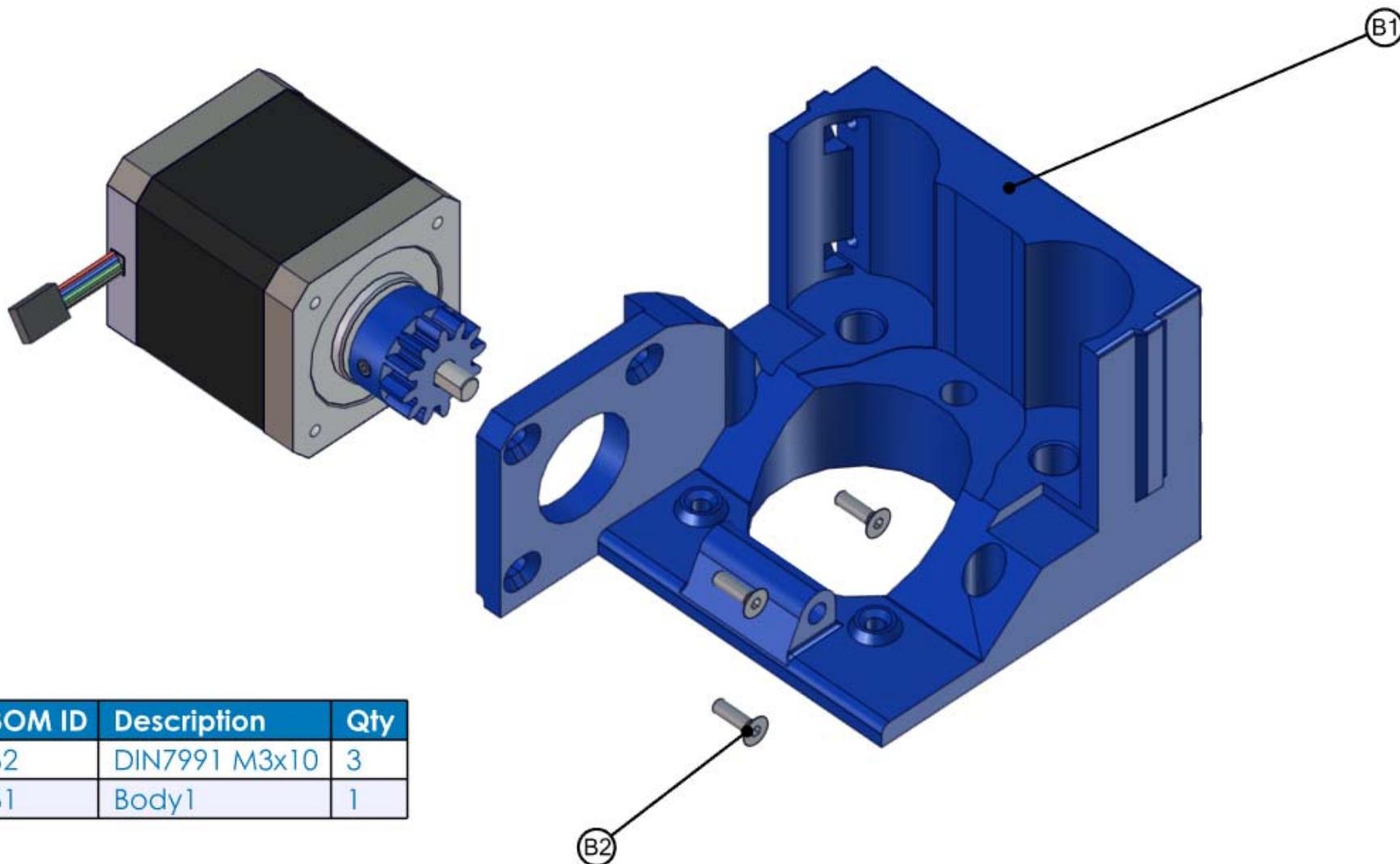


BOM ID	Description	Qty
A4	Stepper NEMA 17	1
A1	Small Gear Paste	1
A3	DIN934 M3	1
A2	DIN913 M3x10	1

2

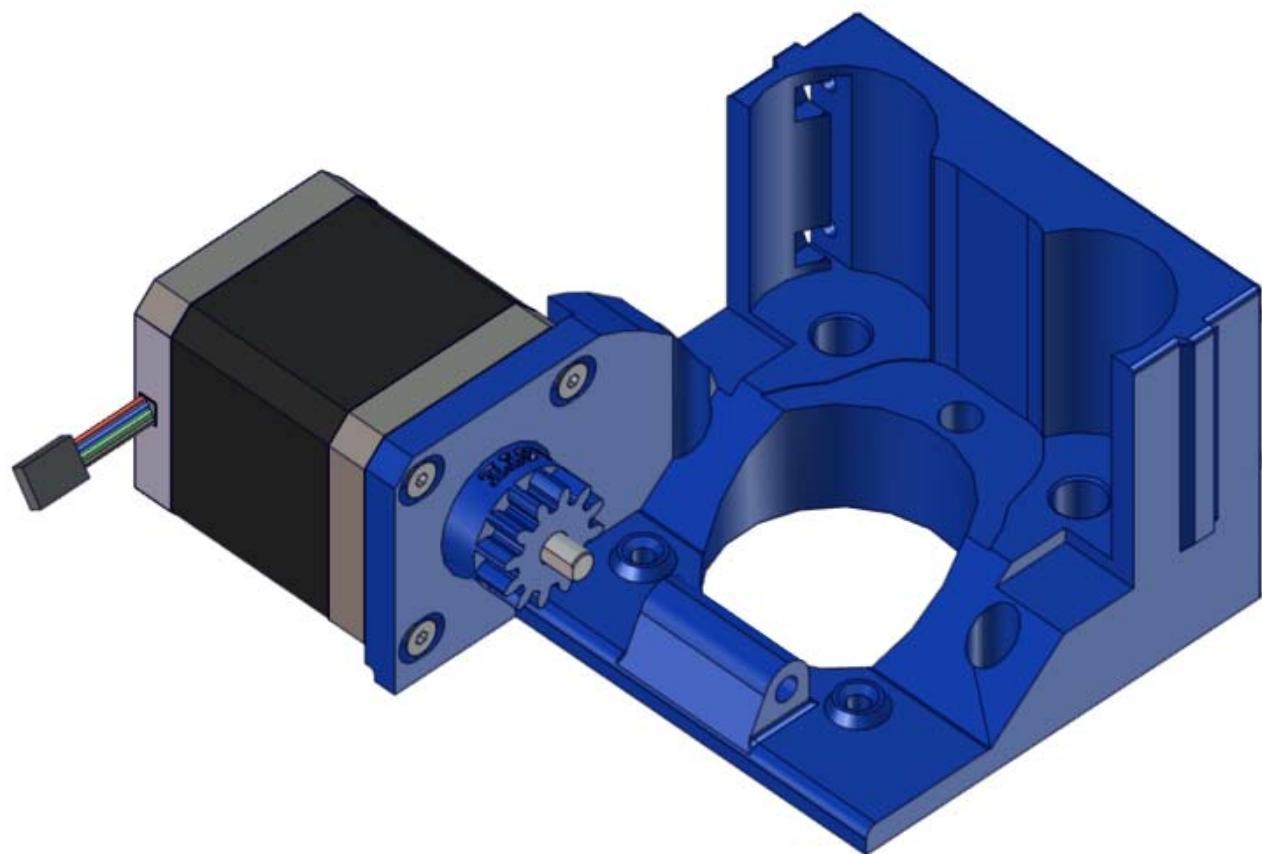


3

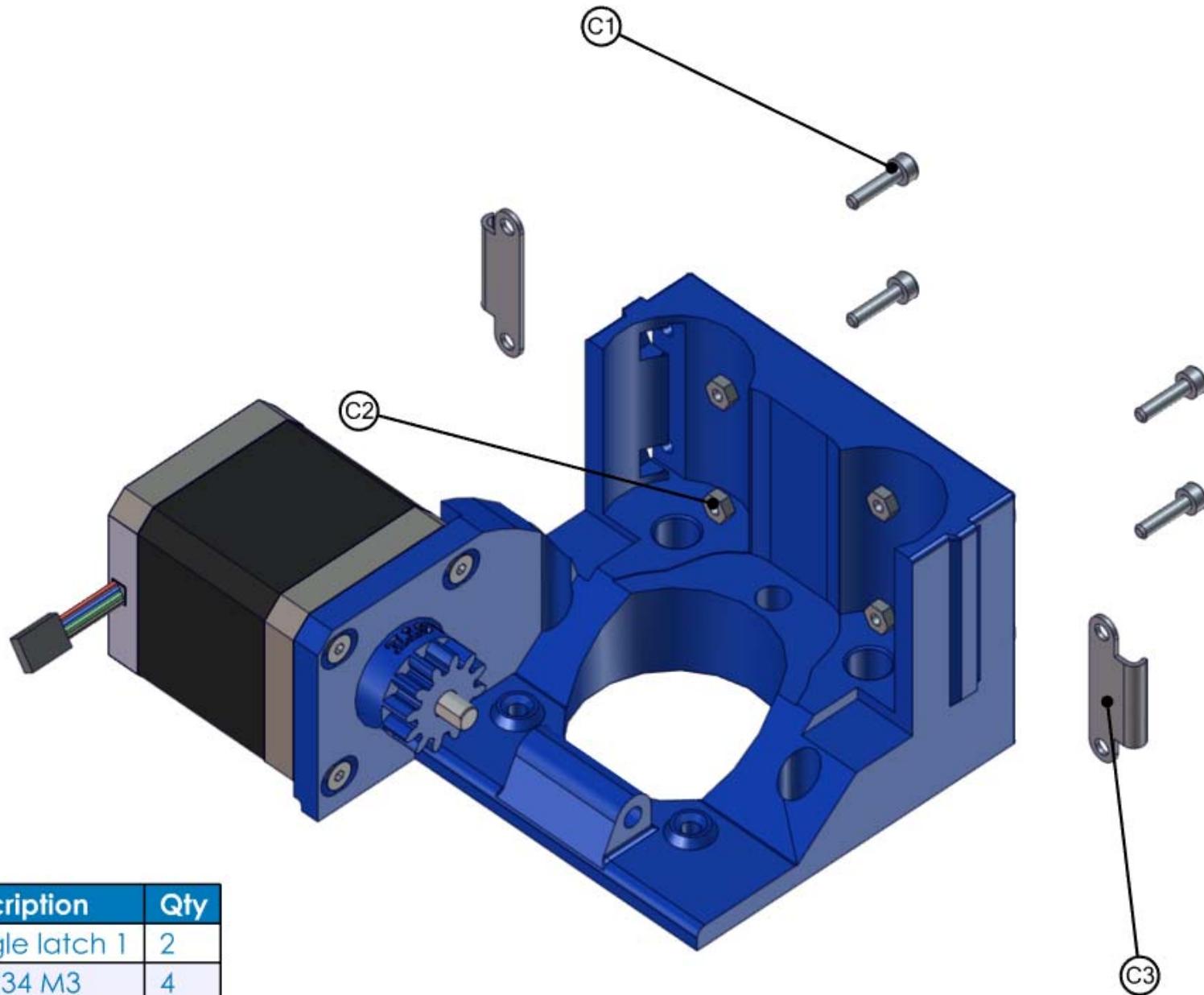


BOM ID	Description	Qty
B2	DIN7991 M3x10	3
B1	Body1	1

4

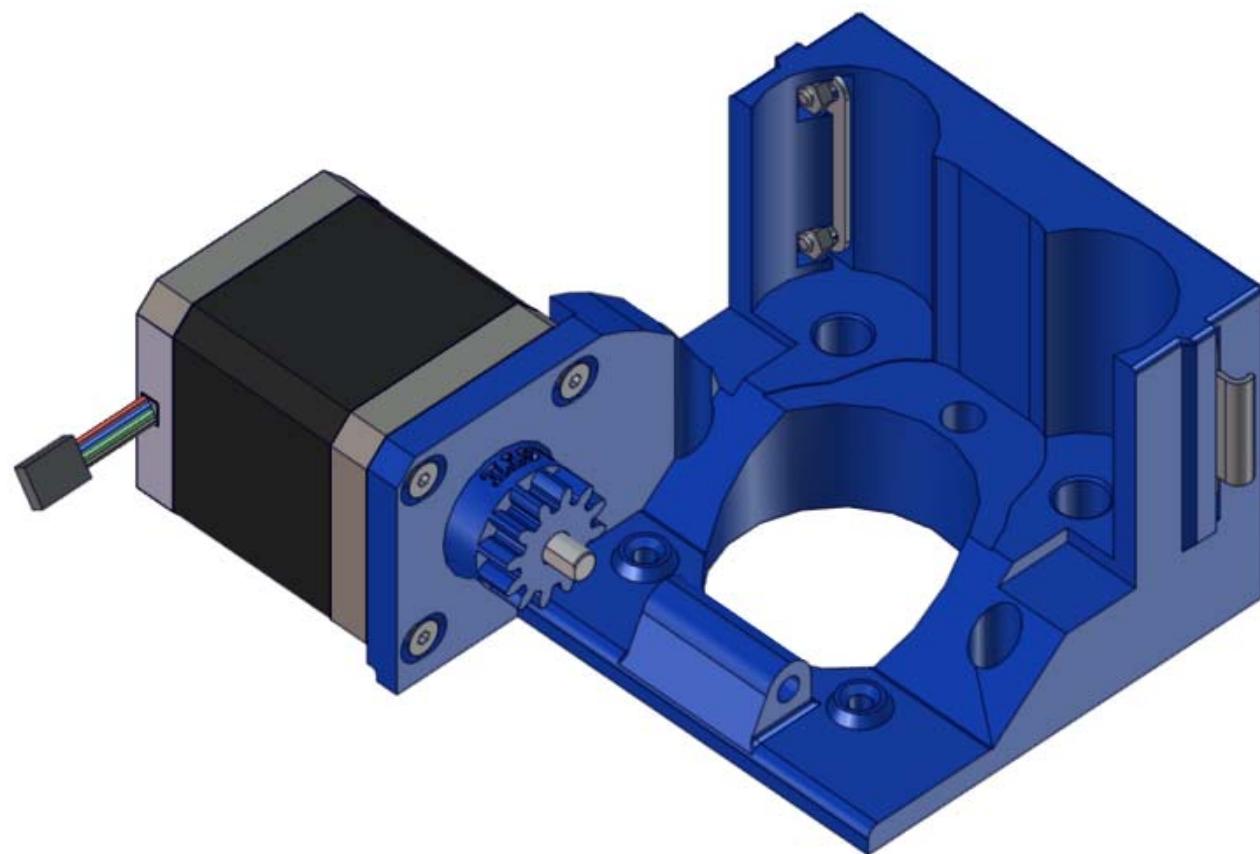


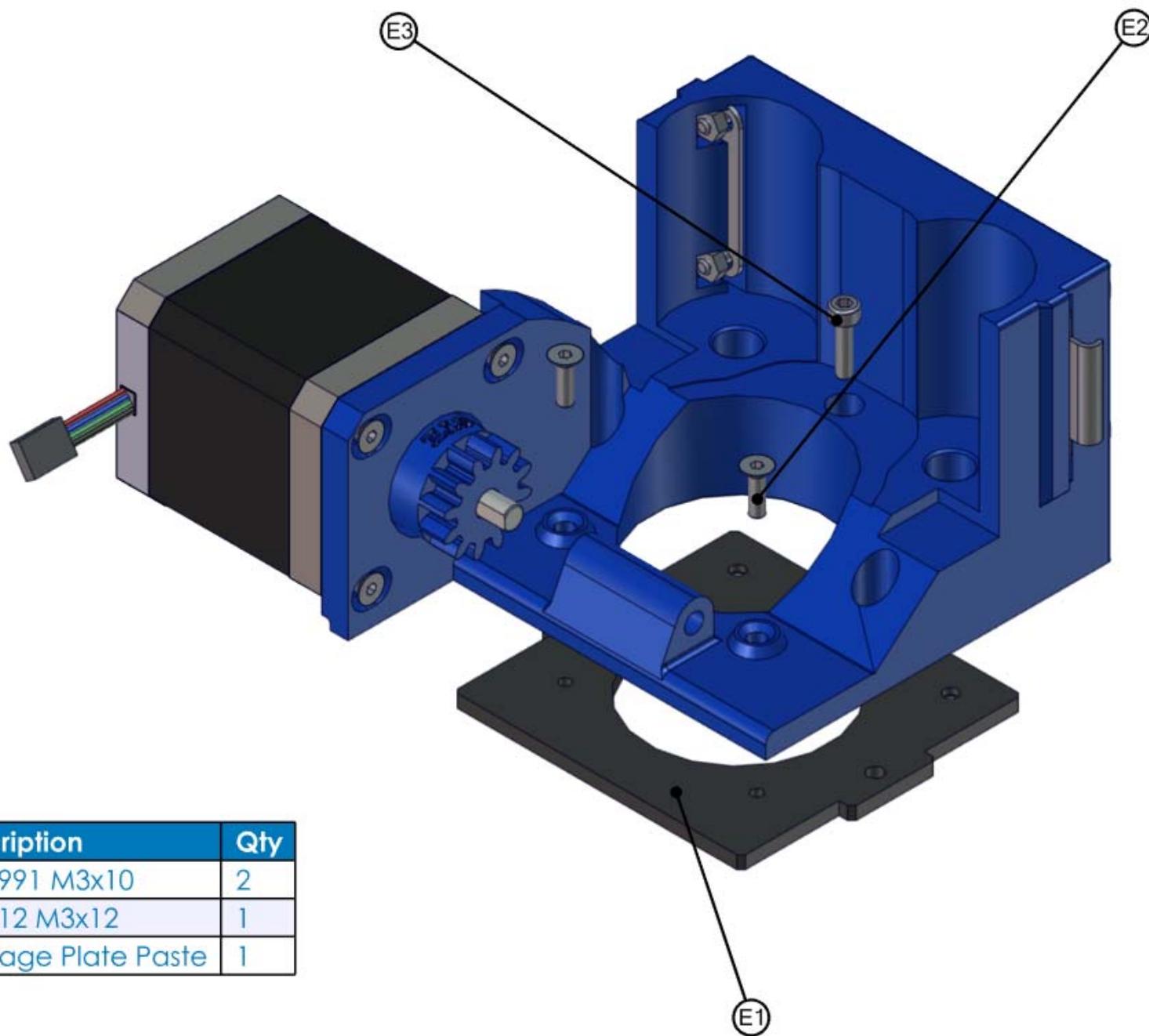
5



BOM ID	Description	Qty
C3	Toggle latch 1	2
C2	DIN934 M3	4
C1	DIN912 M3x12	4

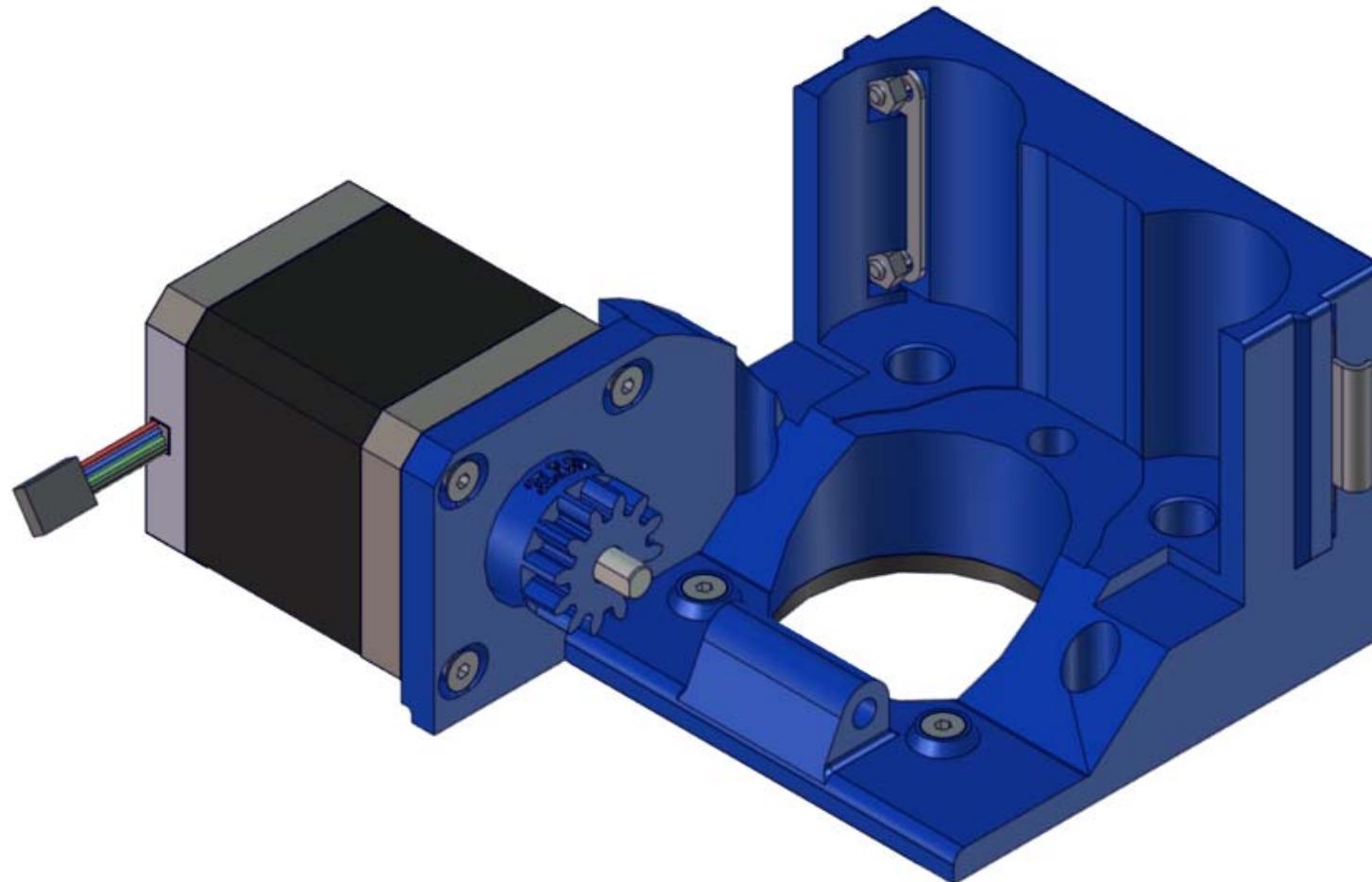
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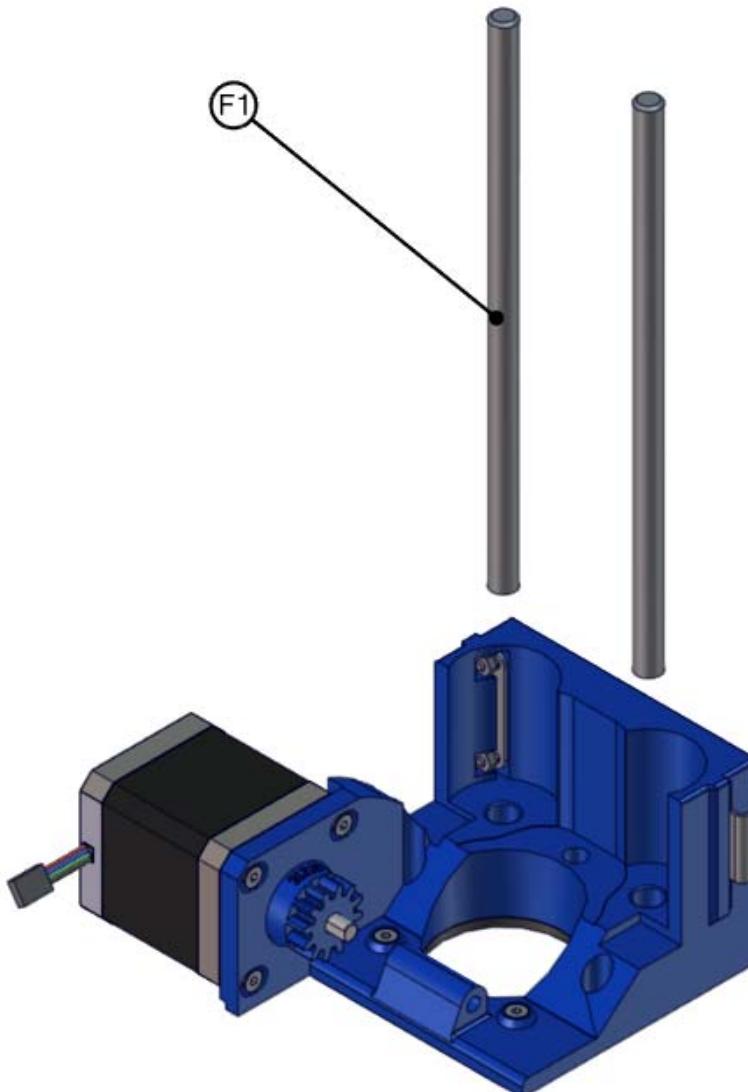


BOM ID	Description	Qty
E2	DIN7991 M3x10	2
E3	DIN912 M3x12	1
E1	Carriage Plate Paste	1

8

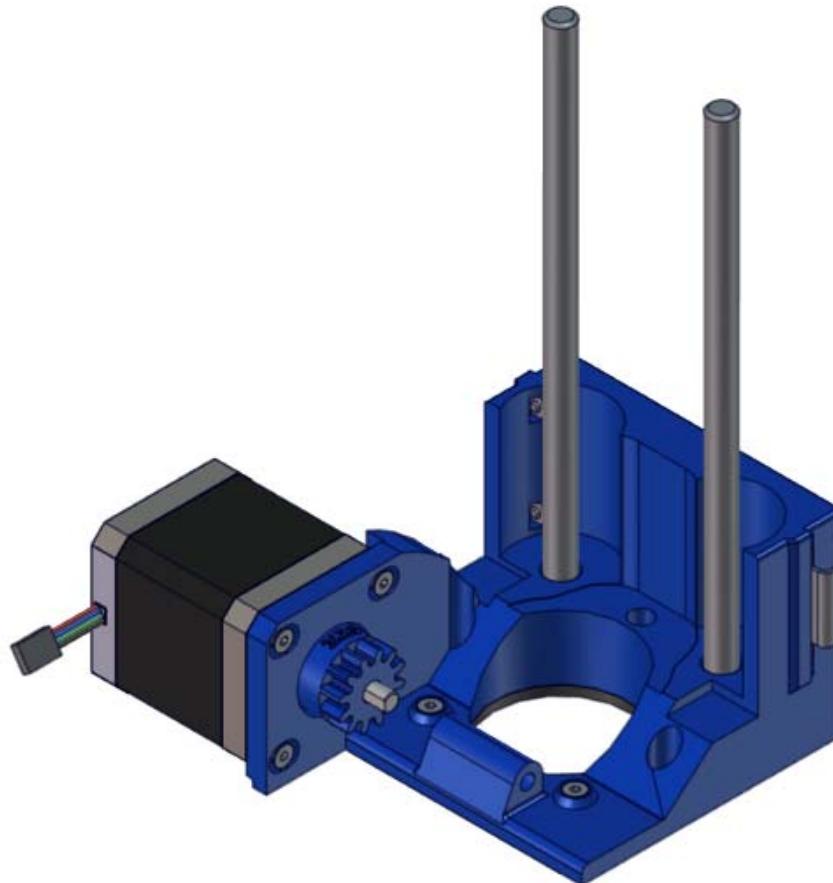


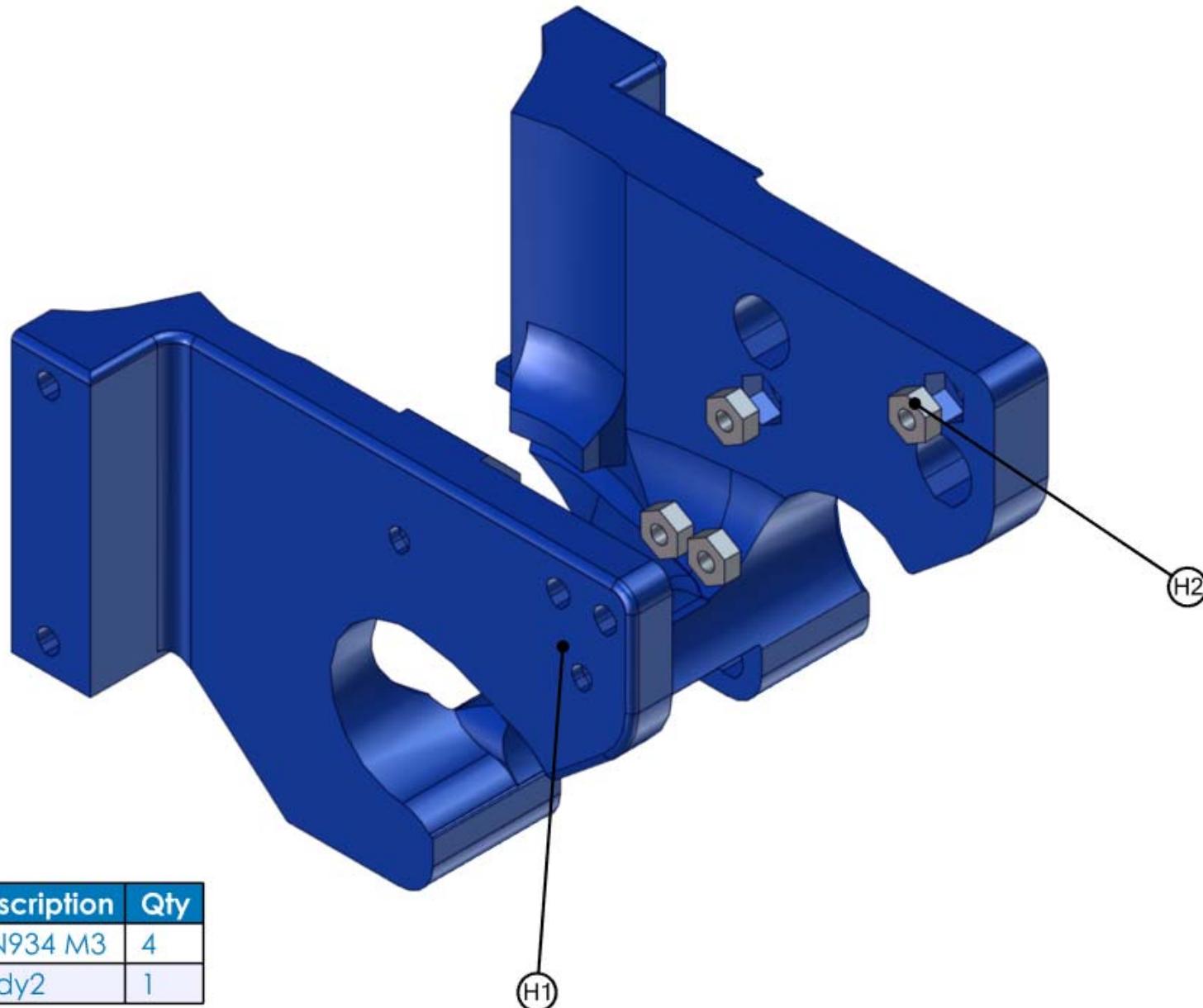
9



BOM ID	Description	Qty
F1	Guide bar	2
F2	DIN7991 M3x10	2

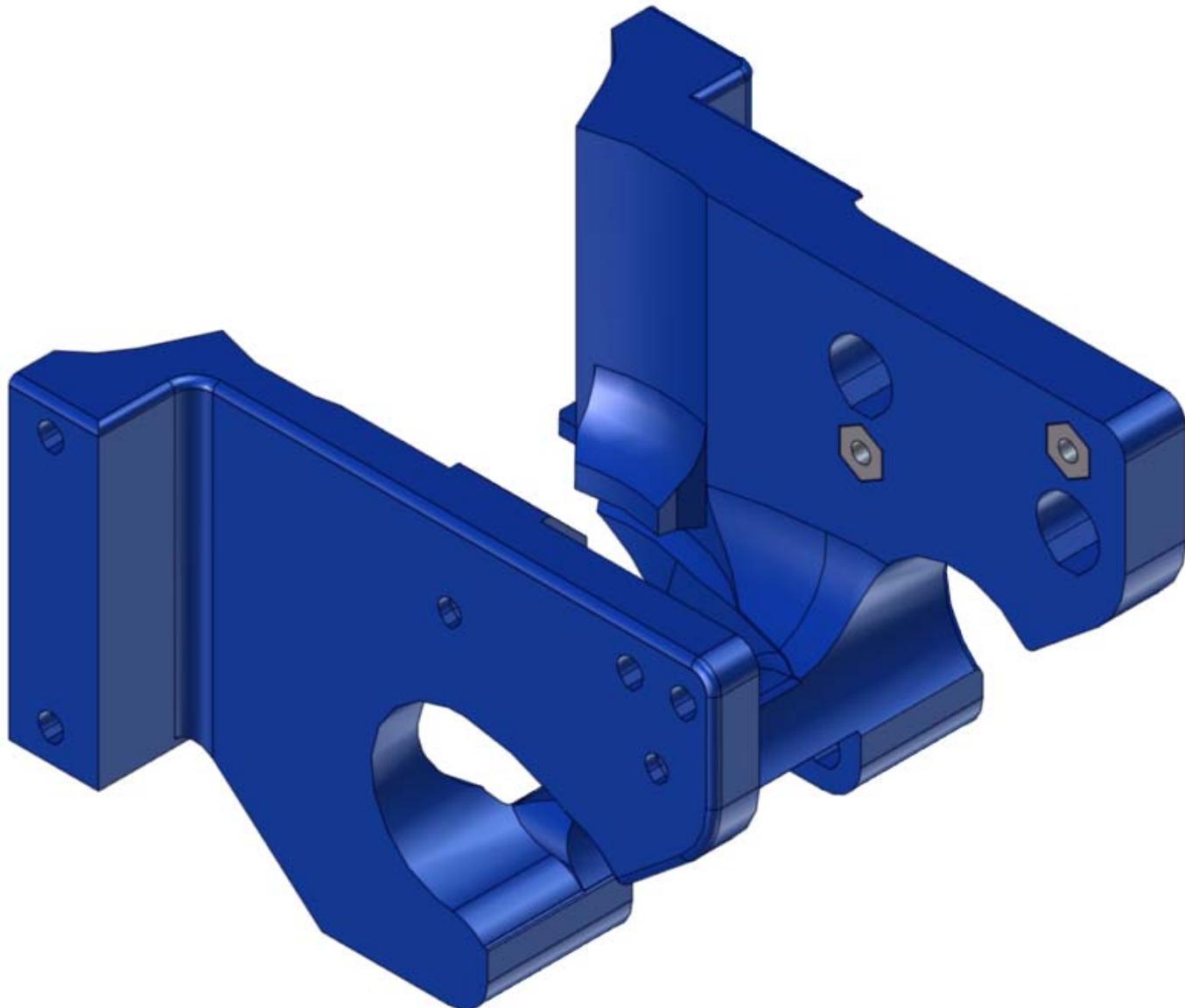
10



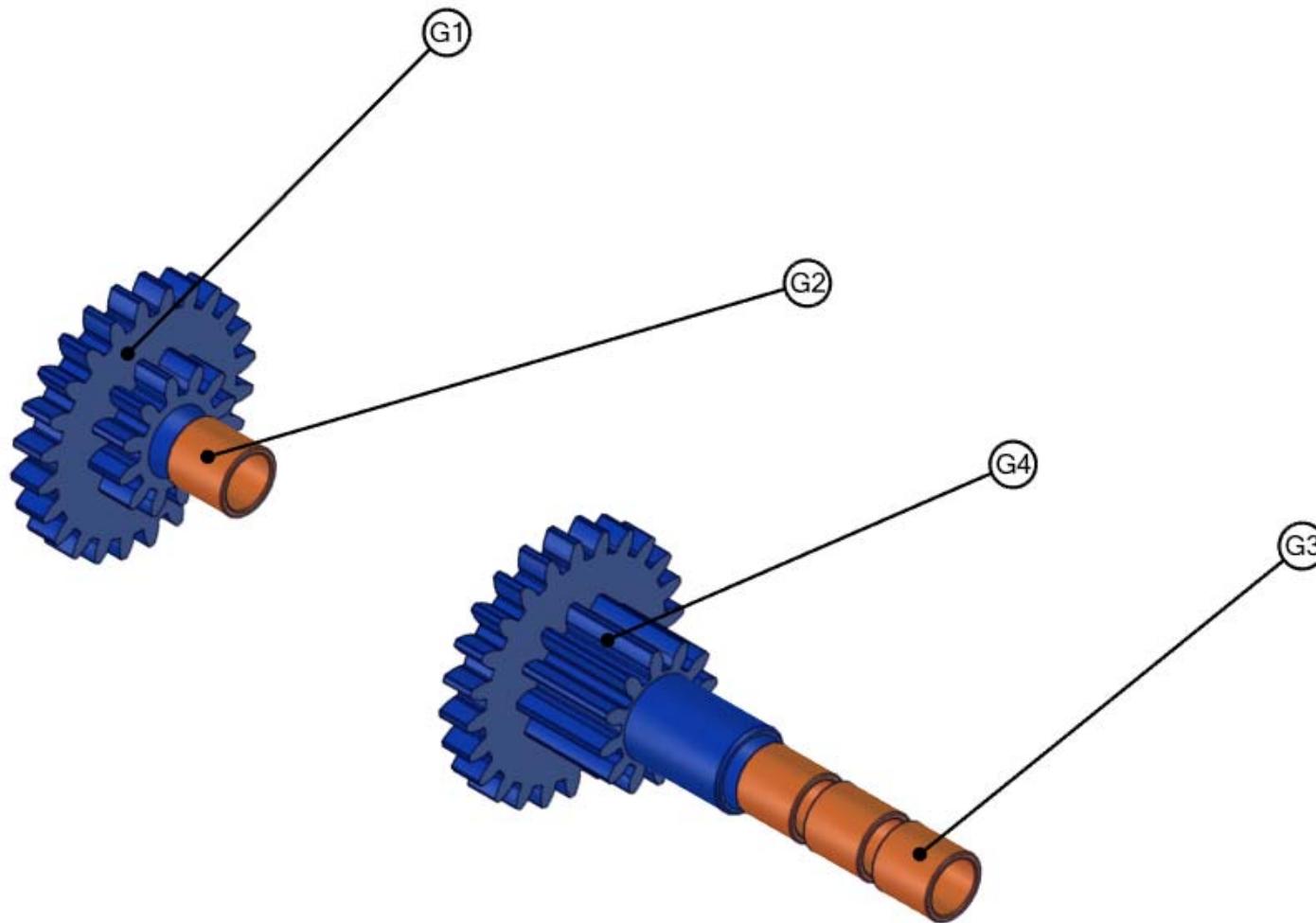


BOM ID	Description	Qty
H2	DIN934 M3	4
H1	Body2	1

12

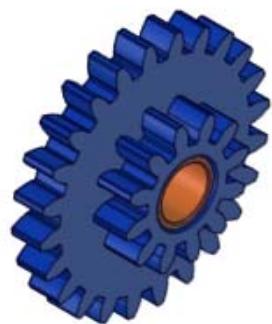


13

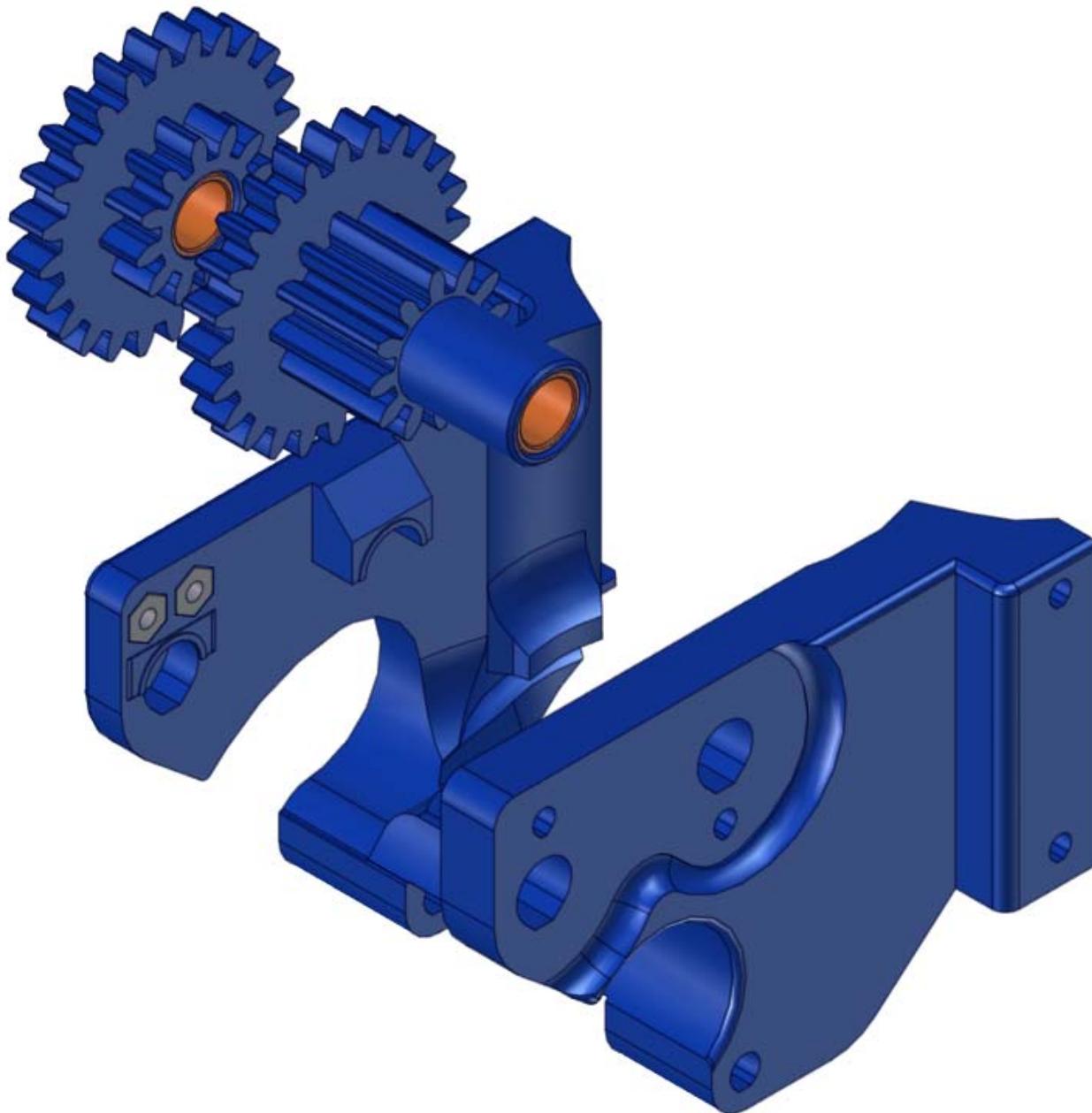


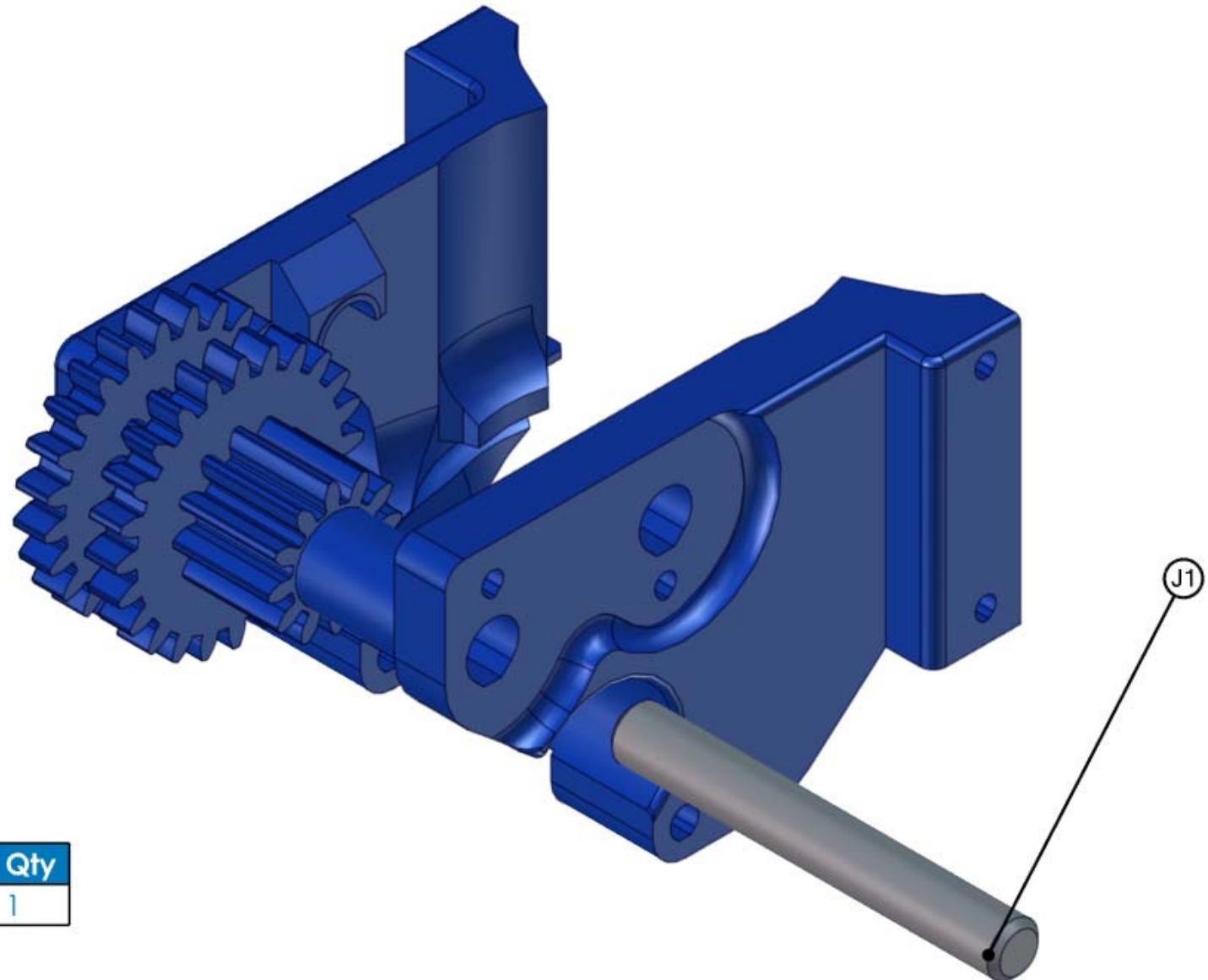
BOM ID	Description	Qty
G3	Selfoil A-8-10	2
G2	Selfoil A-8-10	2
G4	Reduction gear 2	1
G1	Reduction gear 1	1

14



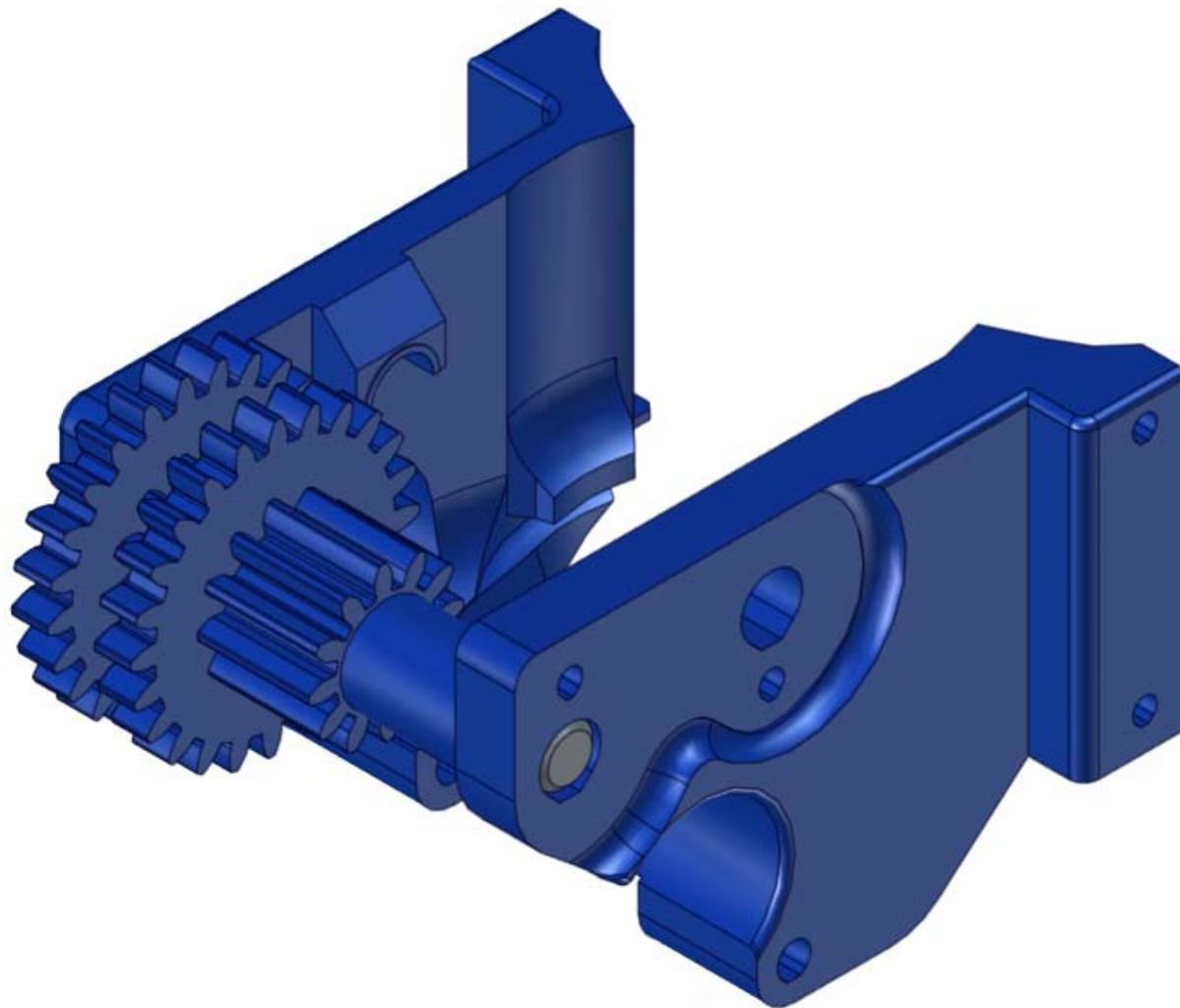
15

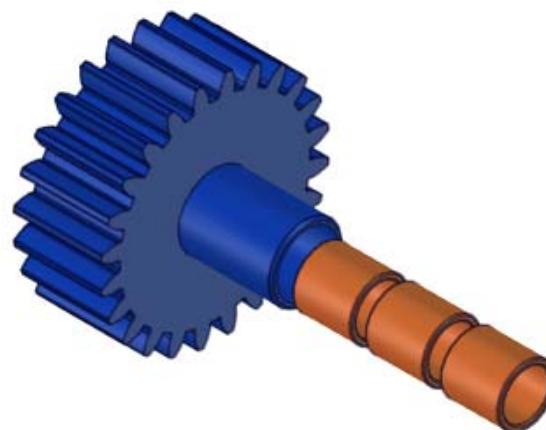
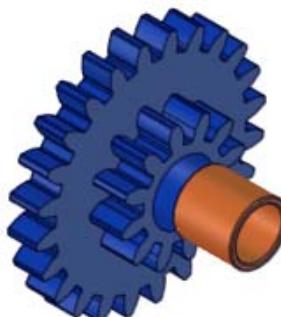




BOM ID	Description	Qty
J1	Shaft bar	1

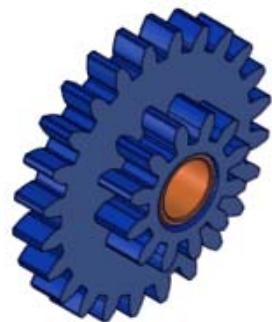
17



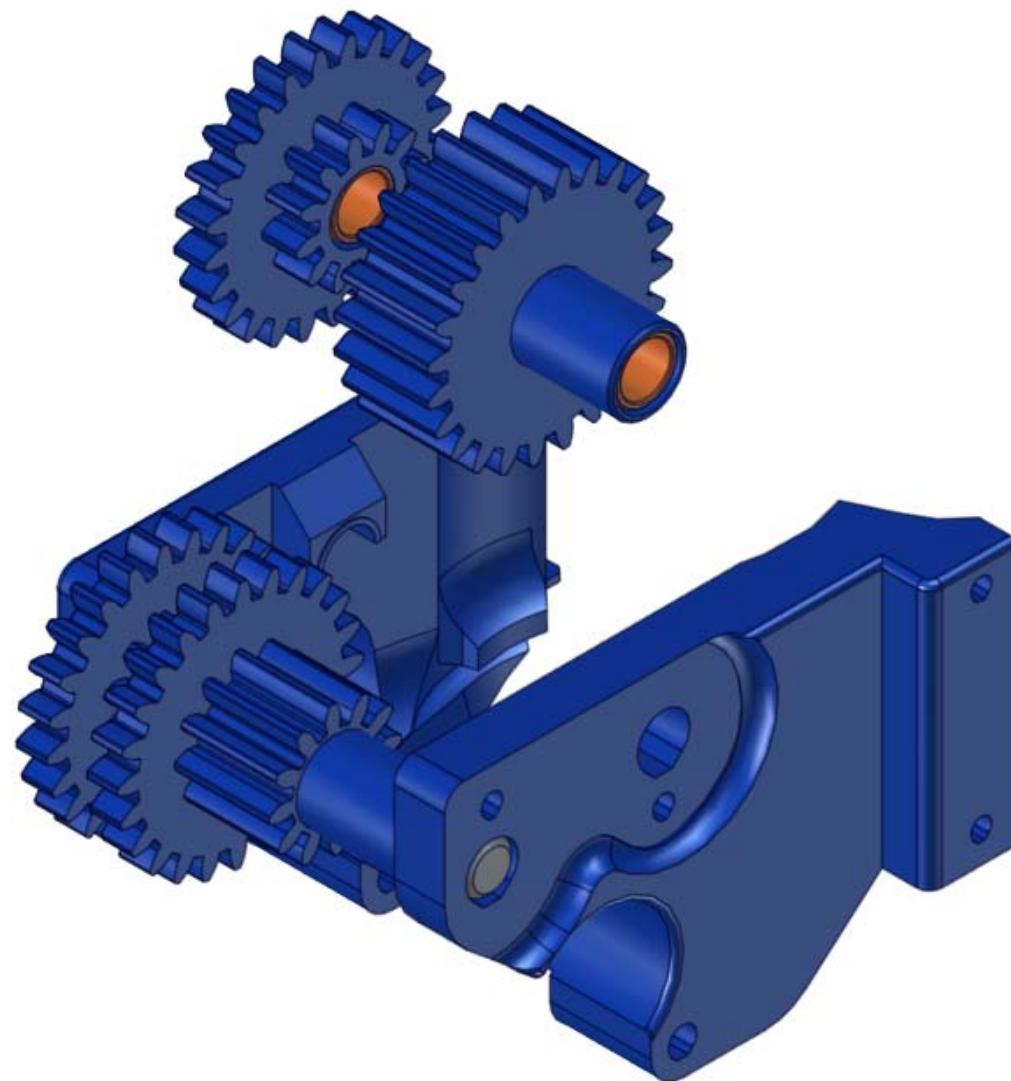


BOM ID	Description	Qty
G1	Transmission	1
G3	Selfoil A-8-10	2
G2	Selfoil A-8-10	2
G4	Reduction gear 2	1

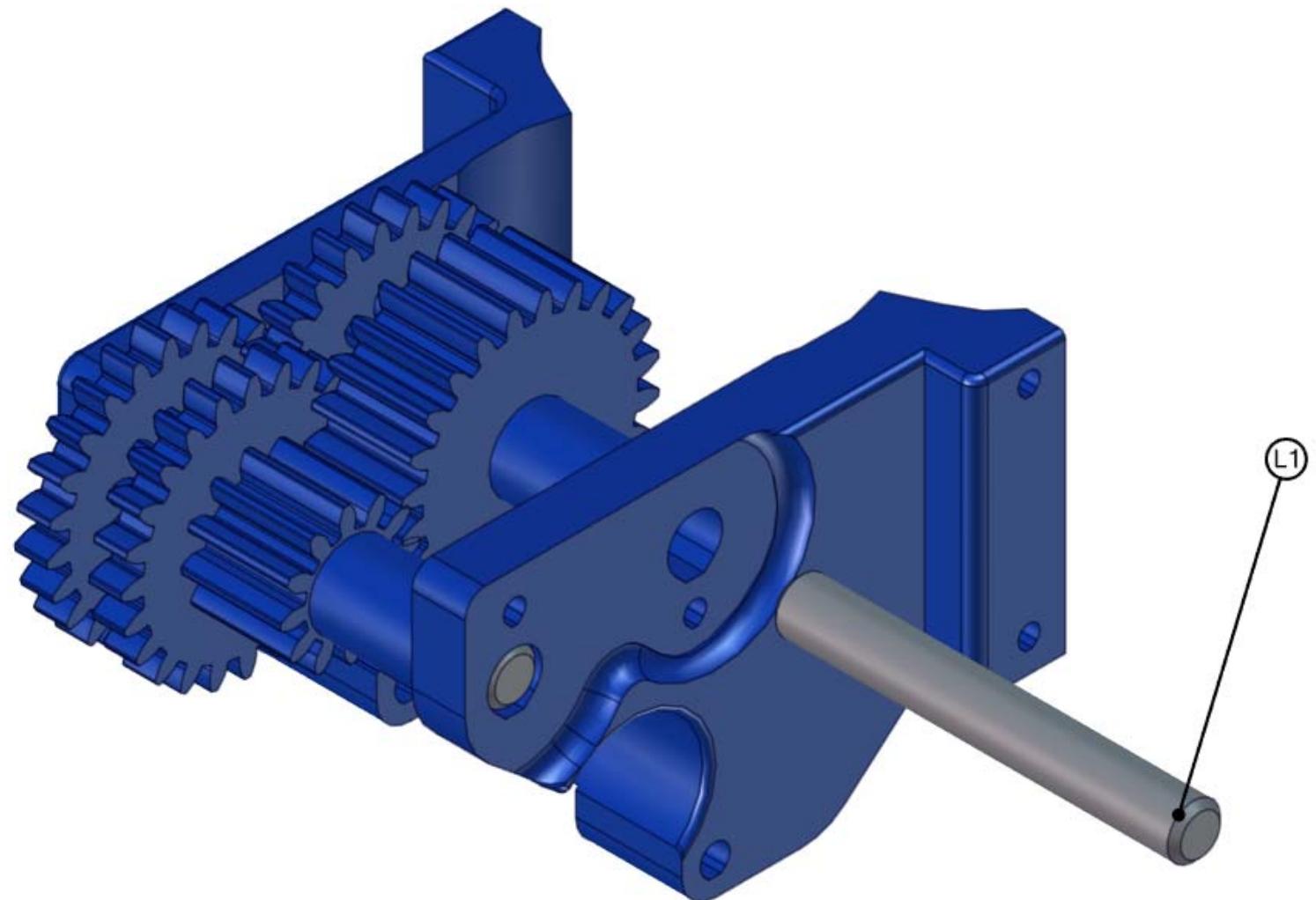
19



20

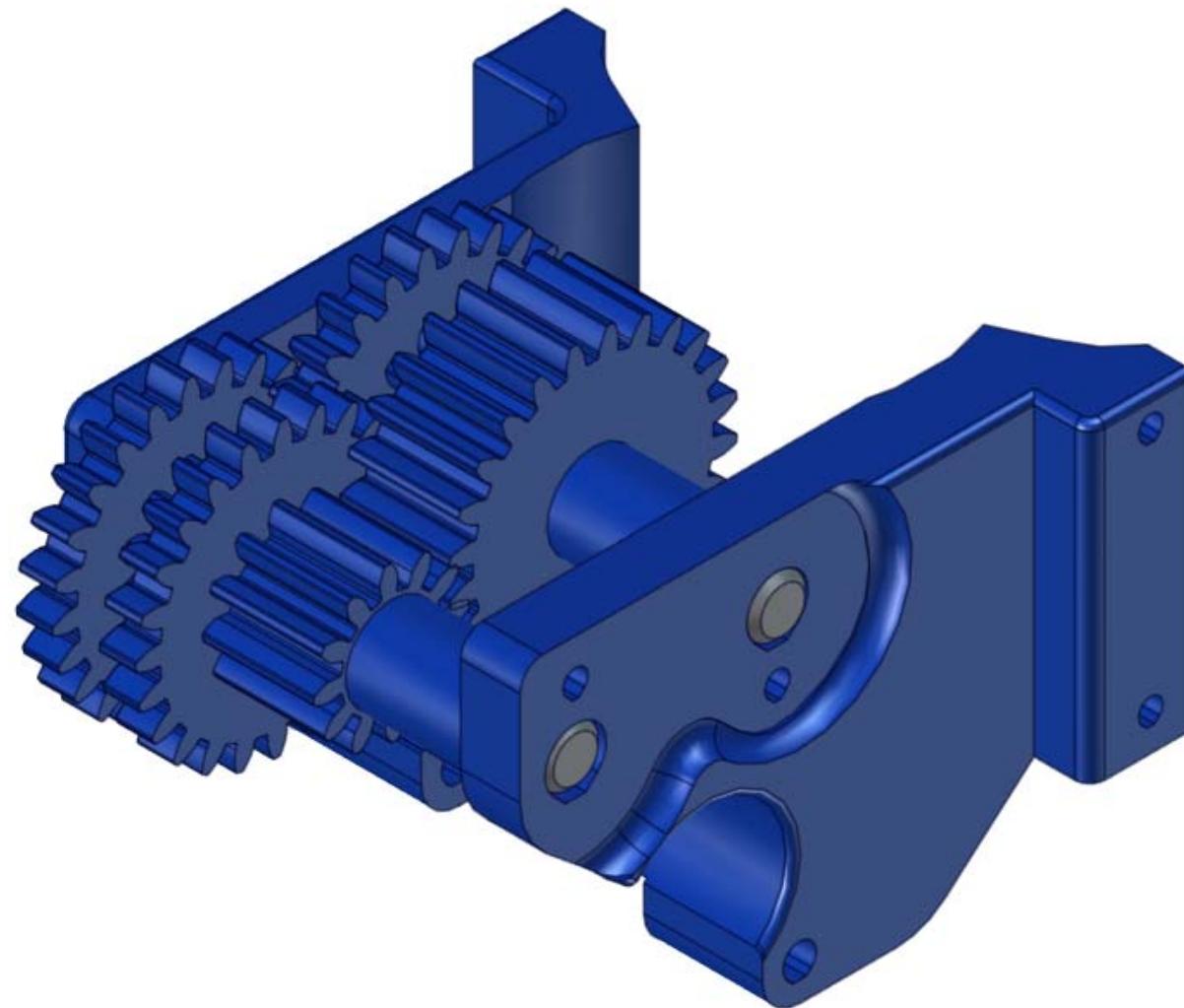


21

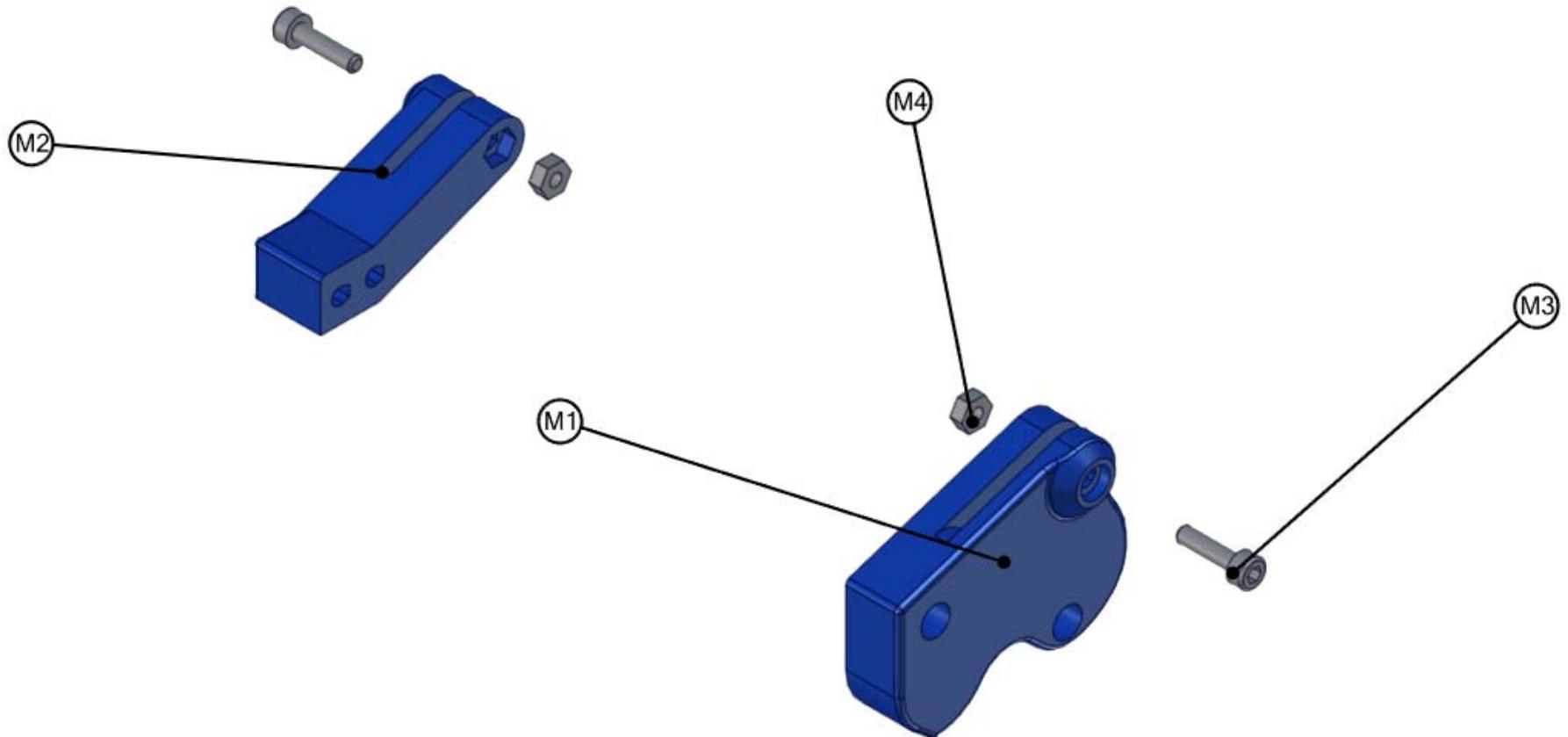


BOM ID	Description	Qty
L1	Shaft bar	1

22



23

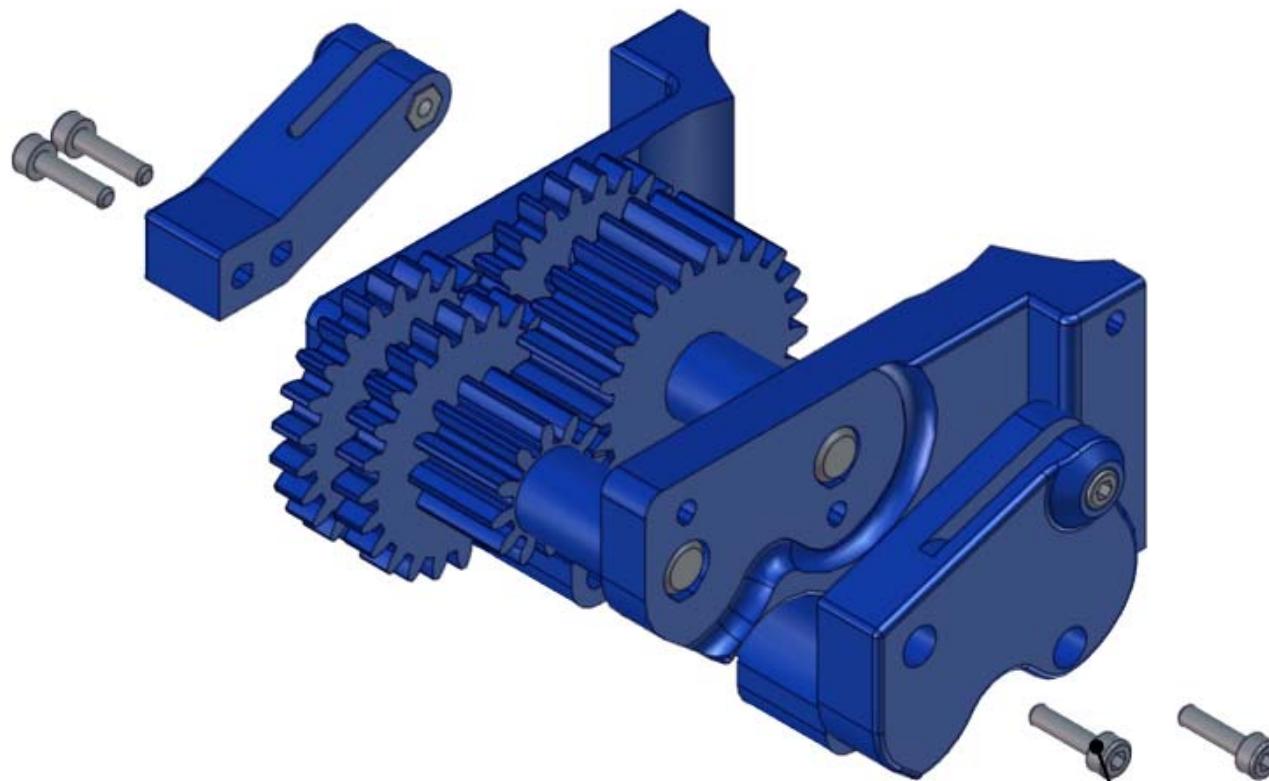


BOM ID	Description	Qty
M2	Link right	1
M1	Link Left	1
M4	DIN934 M3	2
M3	DIN912 M3x12	2

**24**



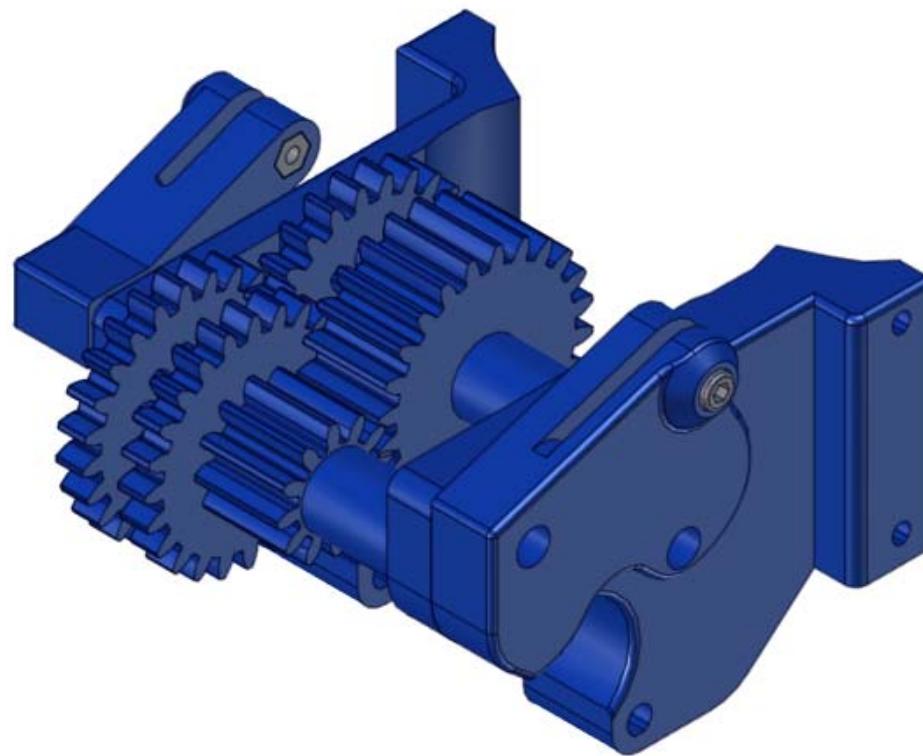
**25**

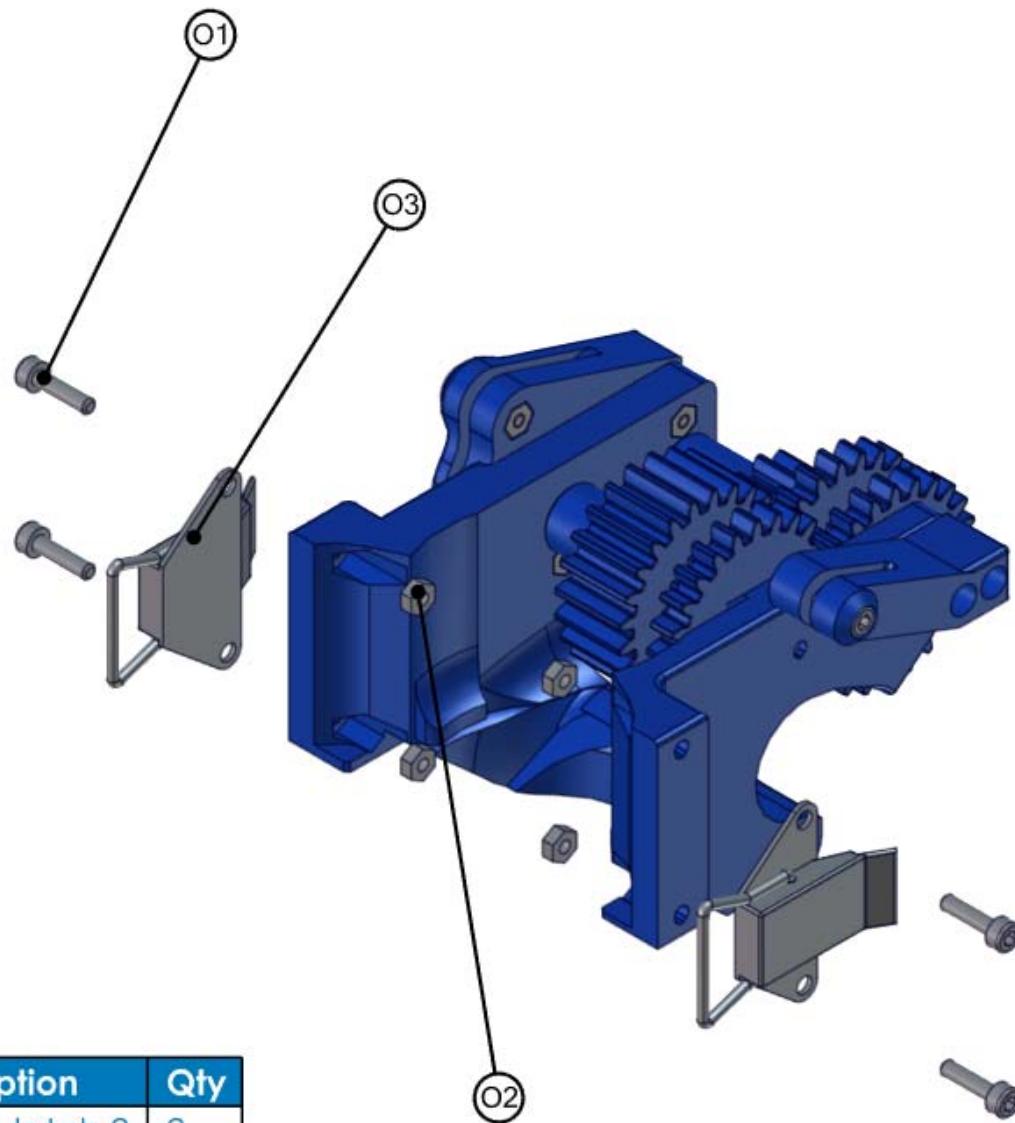


BOM ID	Description	Qty
N1	DIN912 M3x12	4

(N1)

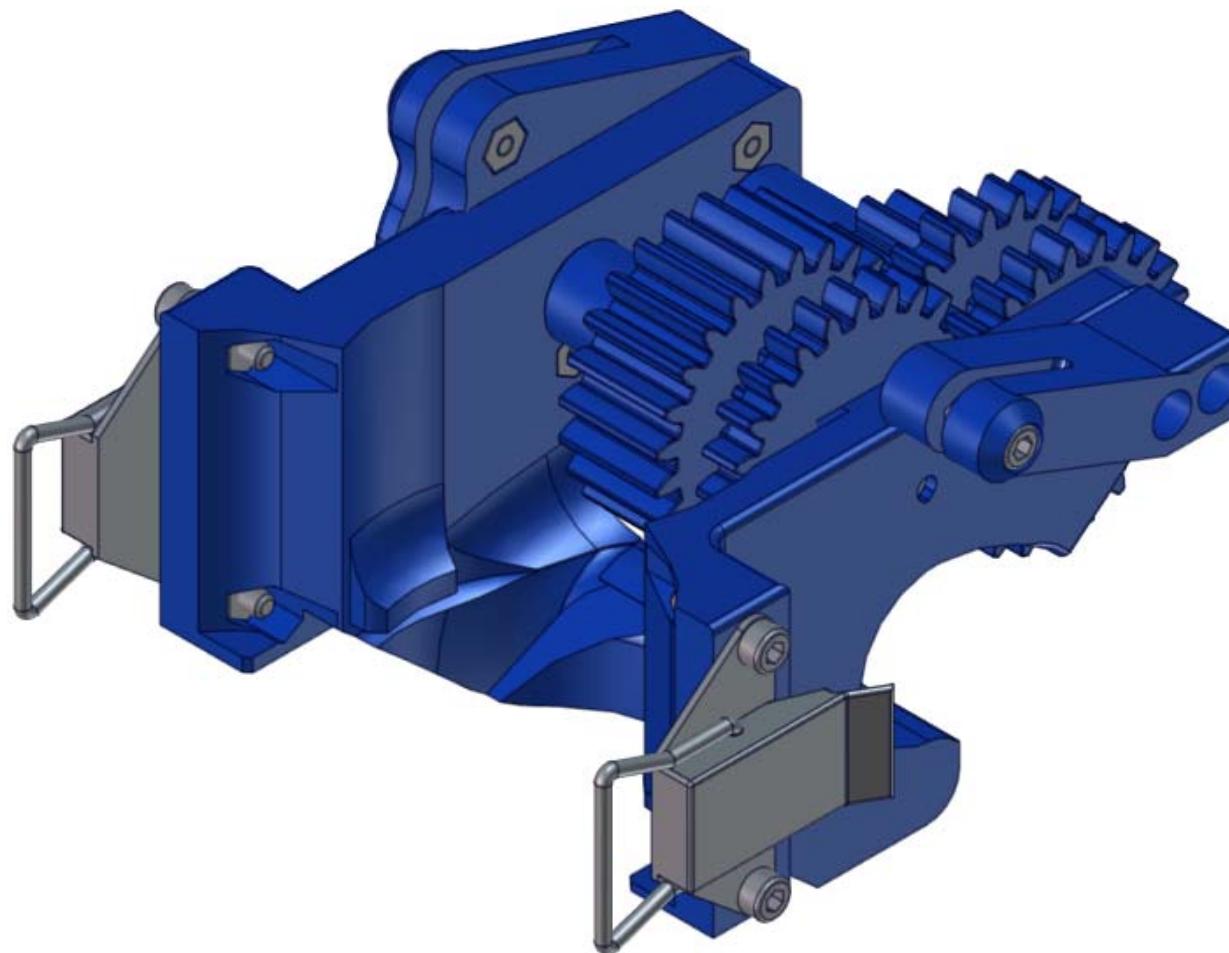
**26**



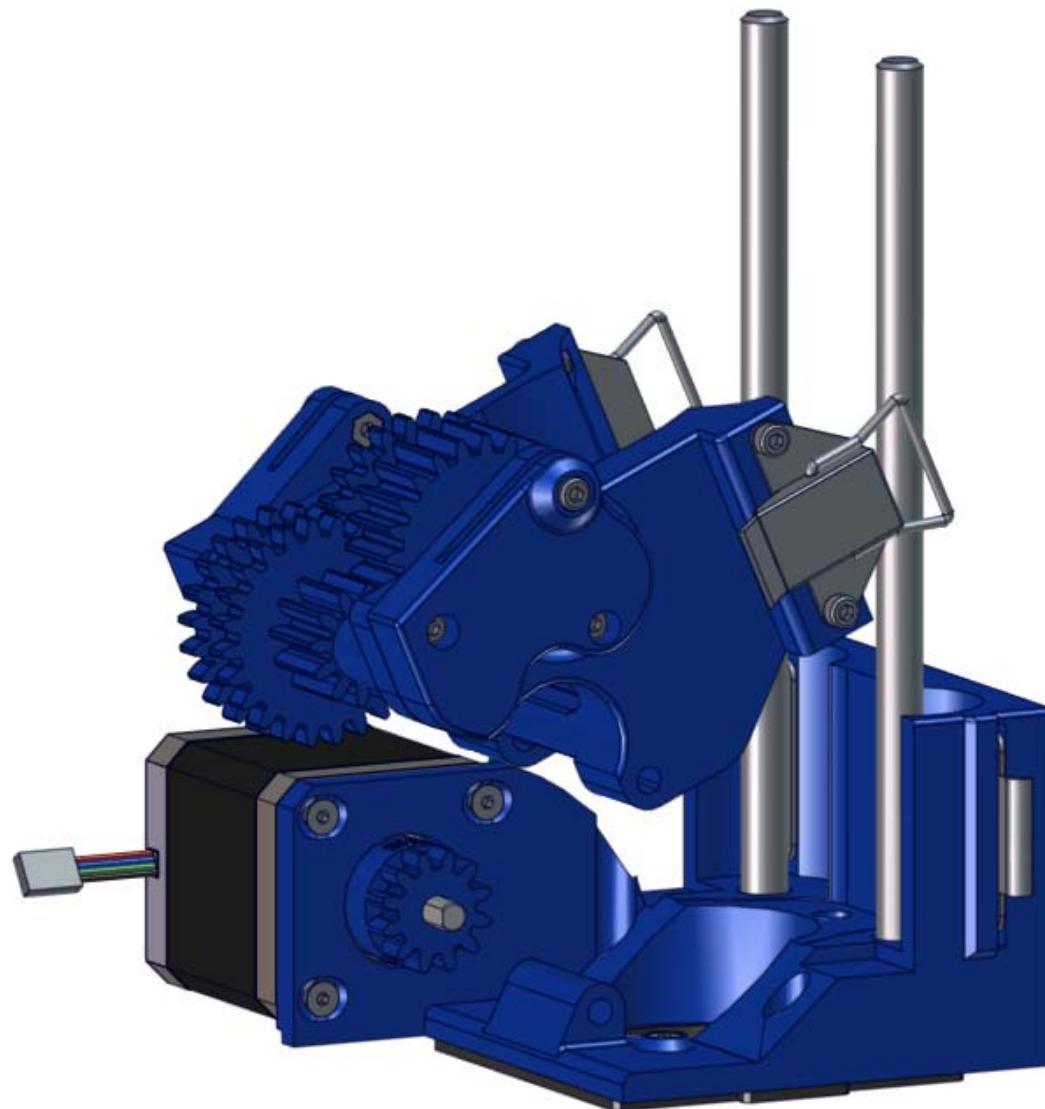


BOM ID	Description	Qty
O3	Toggle latch 2	2
O2	DIN934 M3	4
O1	DIN912 M3x12	4

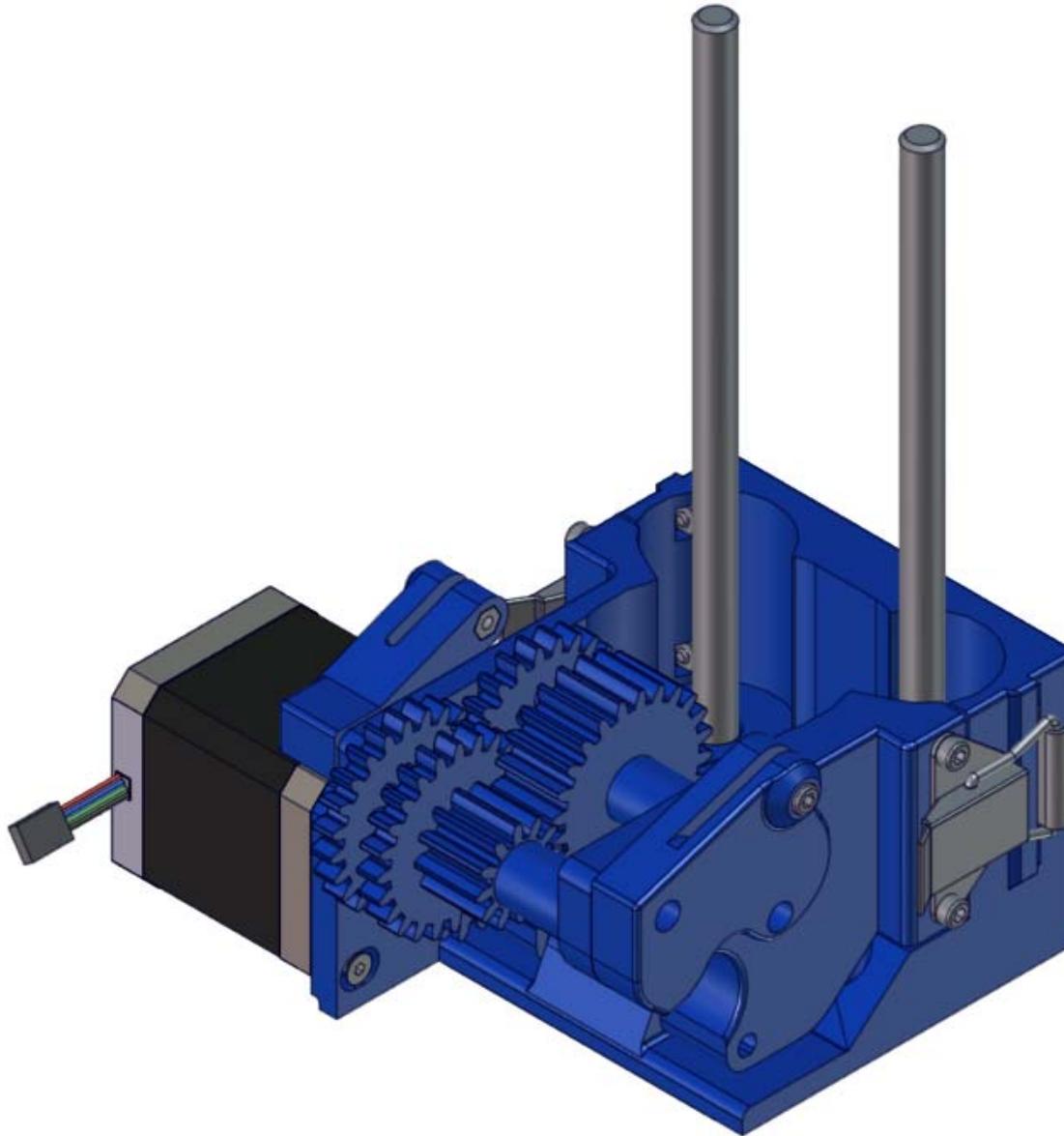
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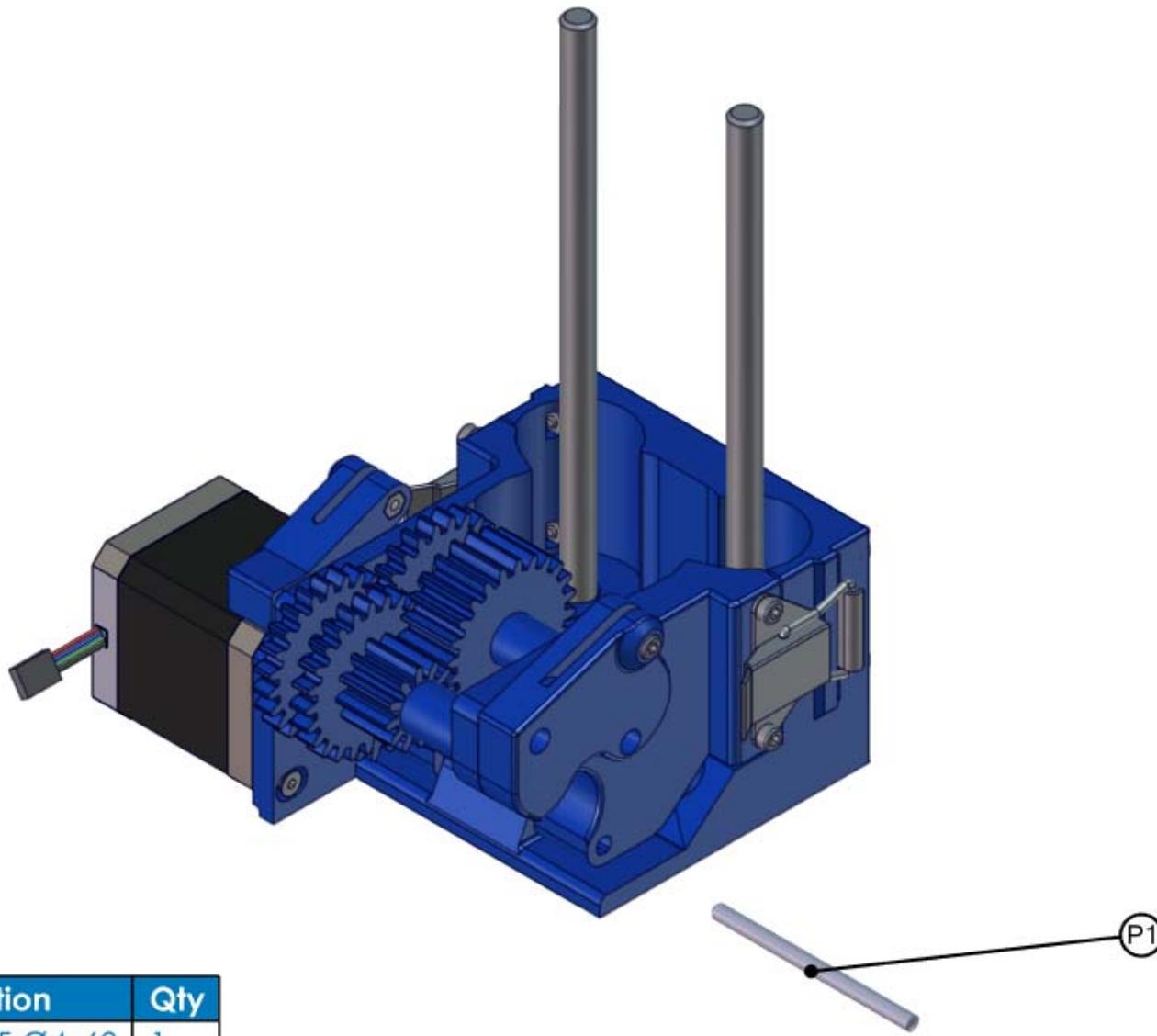
29



30

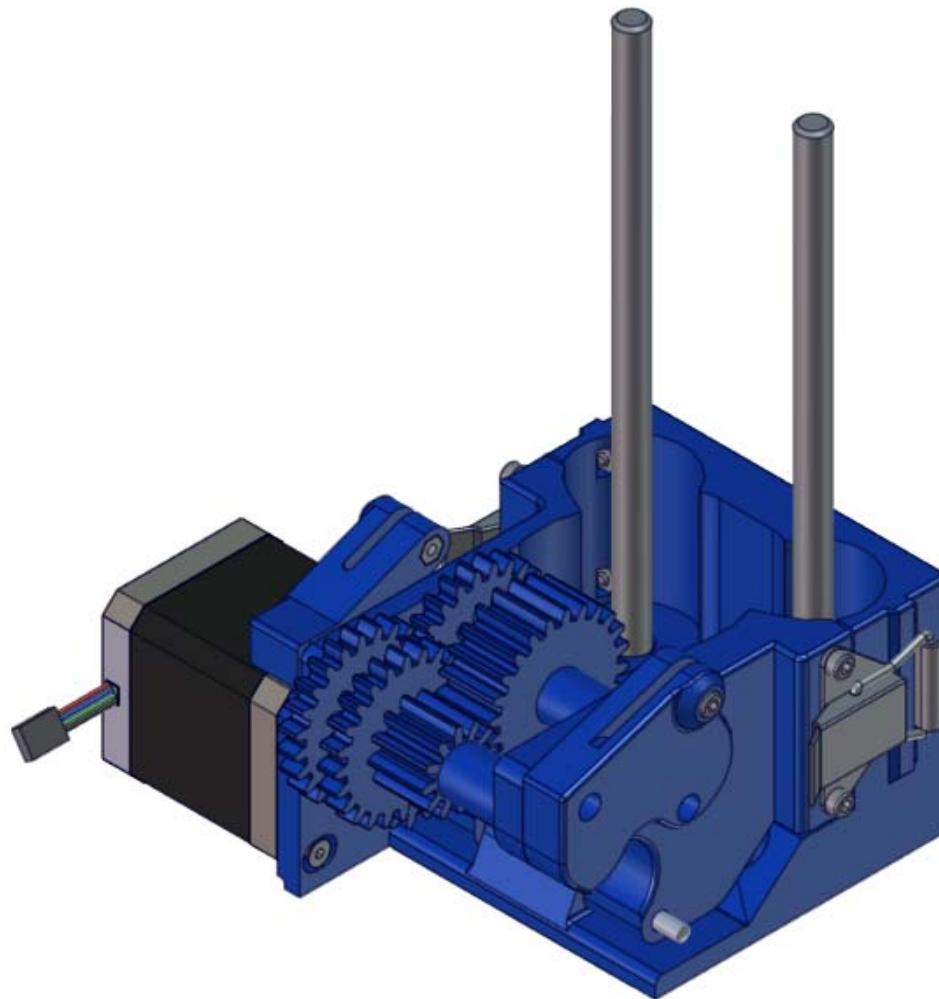


31

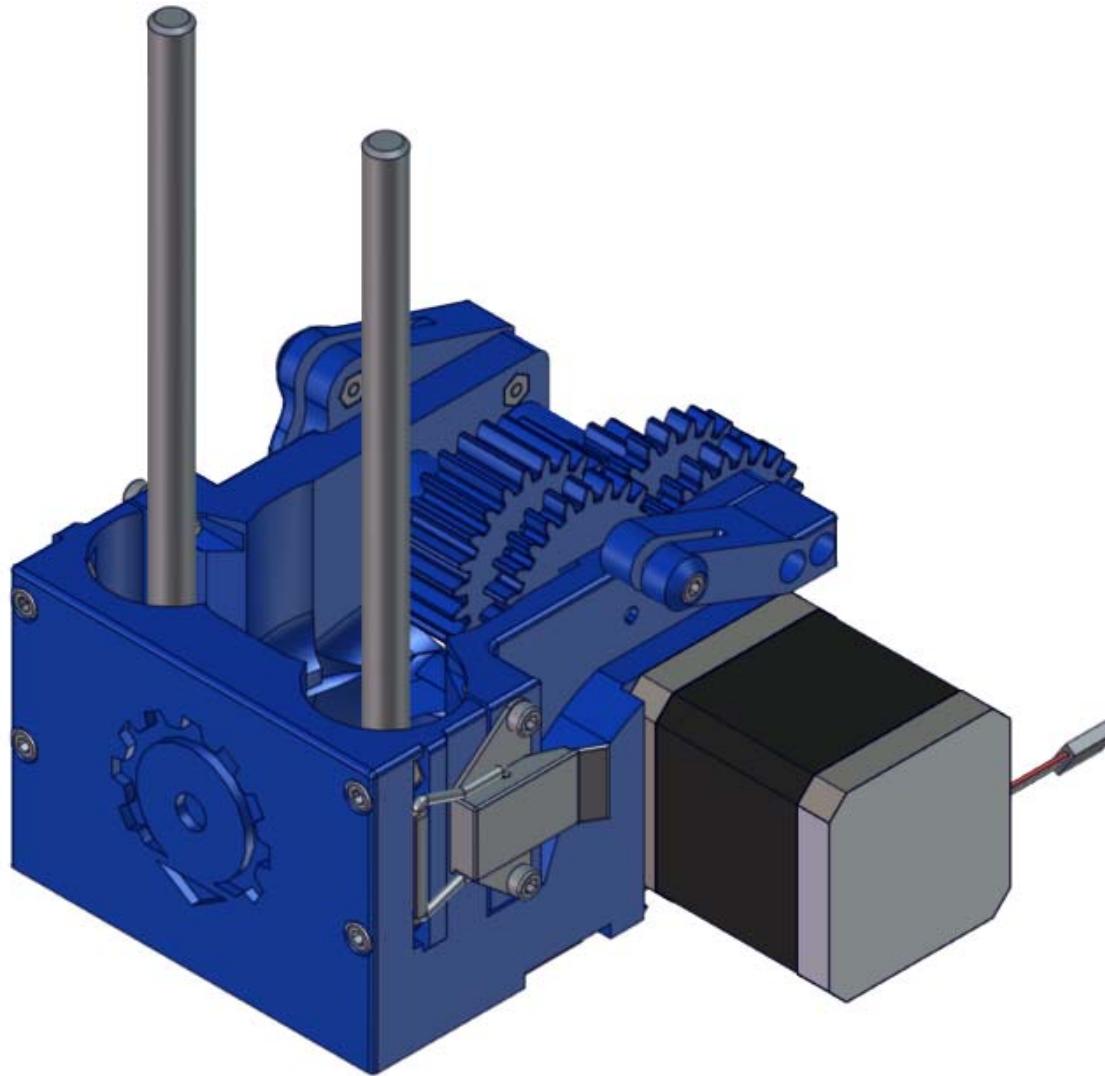


BOM ID	Description	Qty
P1	DIN 6325 Ø4x60	1

32



33



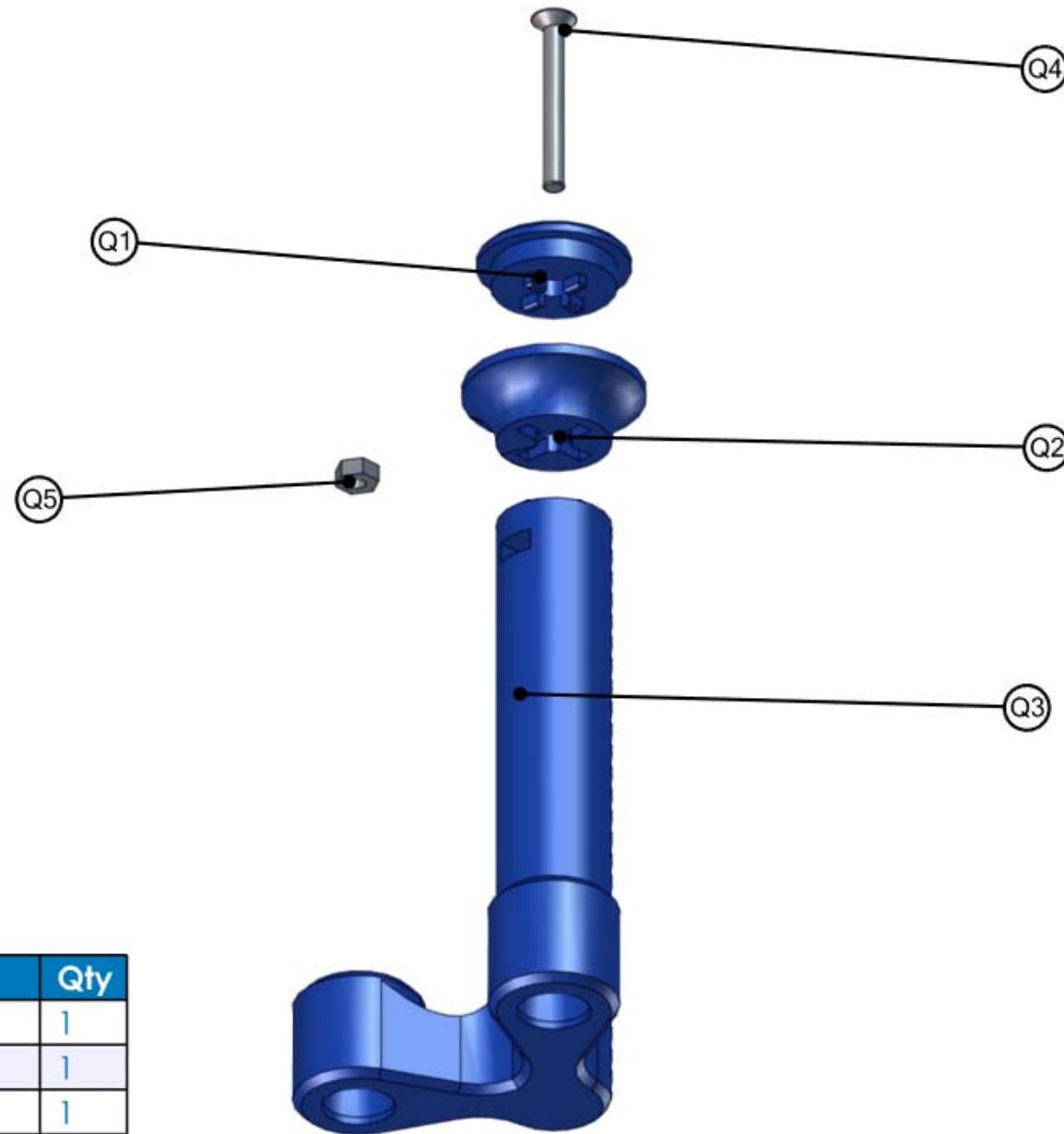


# PASTE EXTRUDER

## Plunger

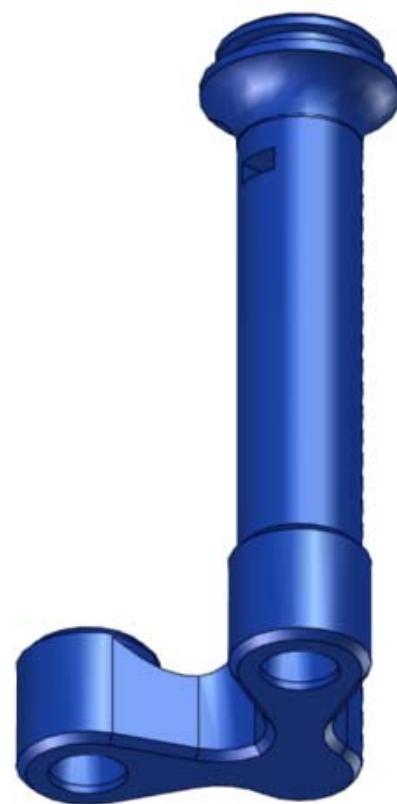


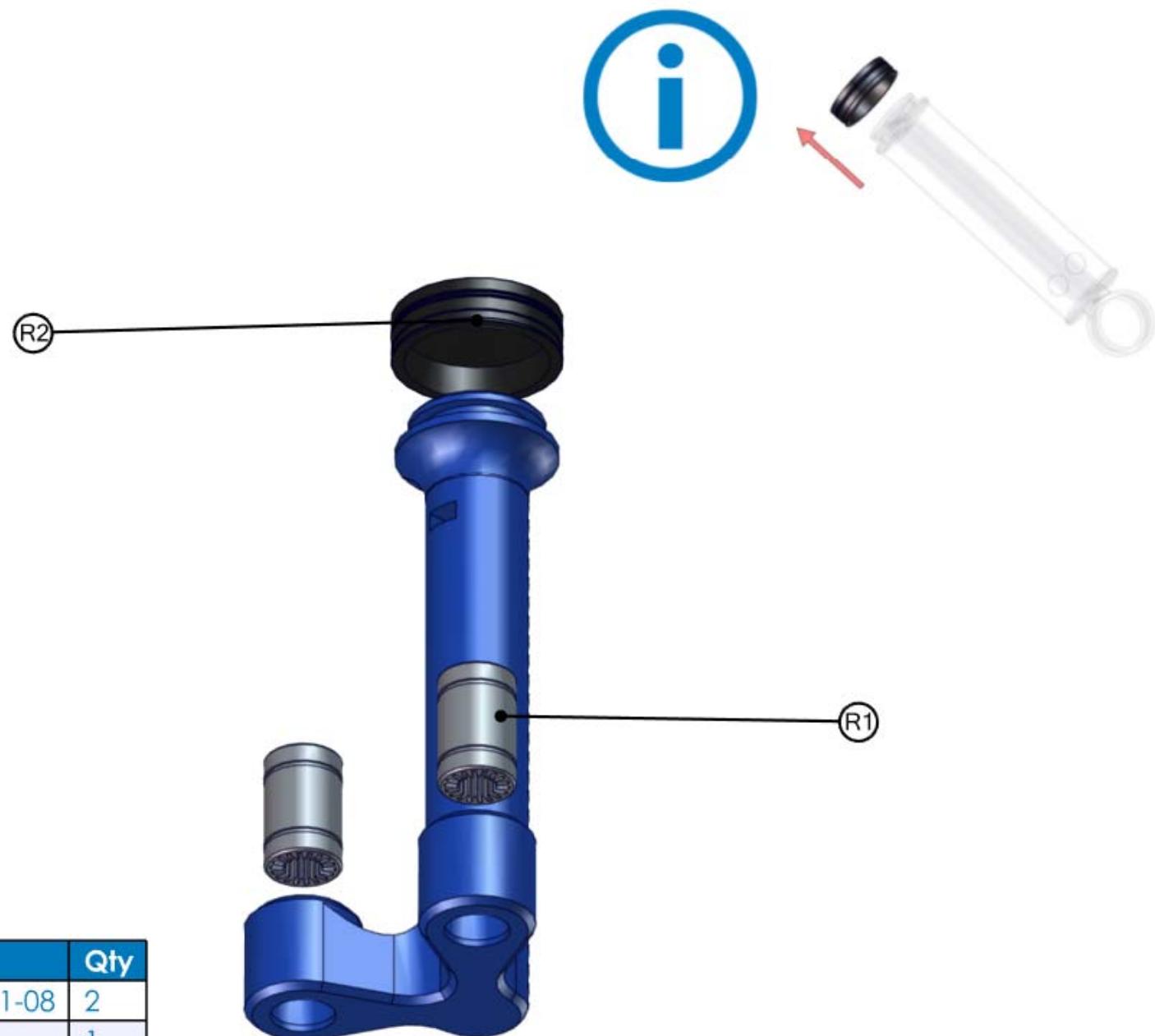
Main View



BOM ID	Description	Qty
Q3	Plunger 3	1
Q2	Plunger 2	1
Q1	Plunger 1	1
Q4	DIN7991 M4x35	1
Q5	DIN934 M4	1

35





BOM ID	Description	Qty
R1	Igus DryLin RJMP 01-08	2
R2	EmboLo 100ml	1

37



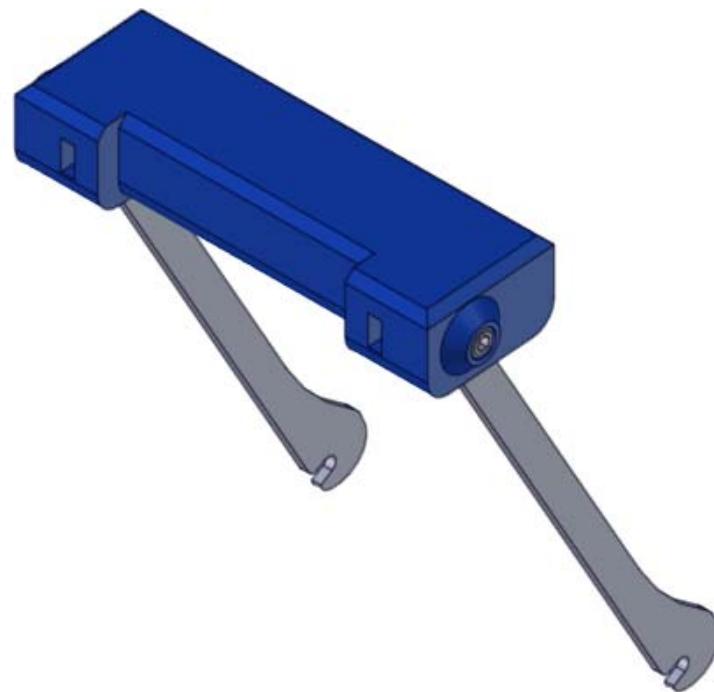
**38**



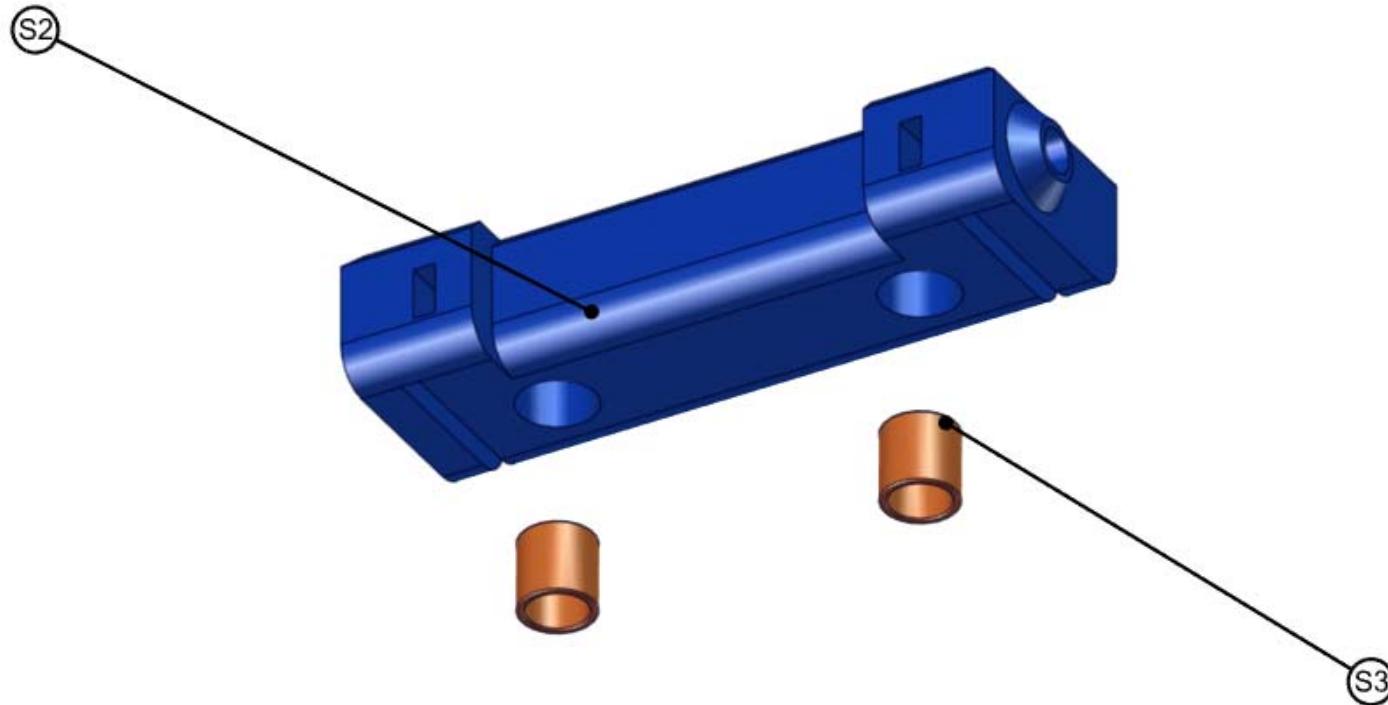


# PASTE EXTRUDER

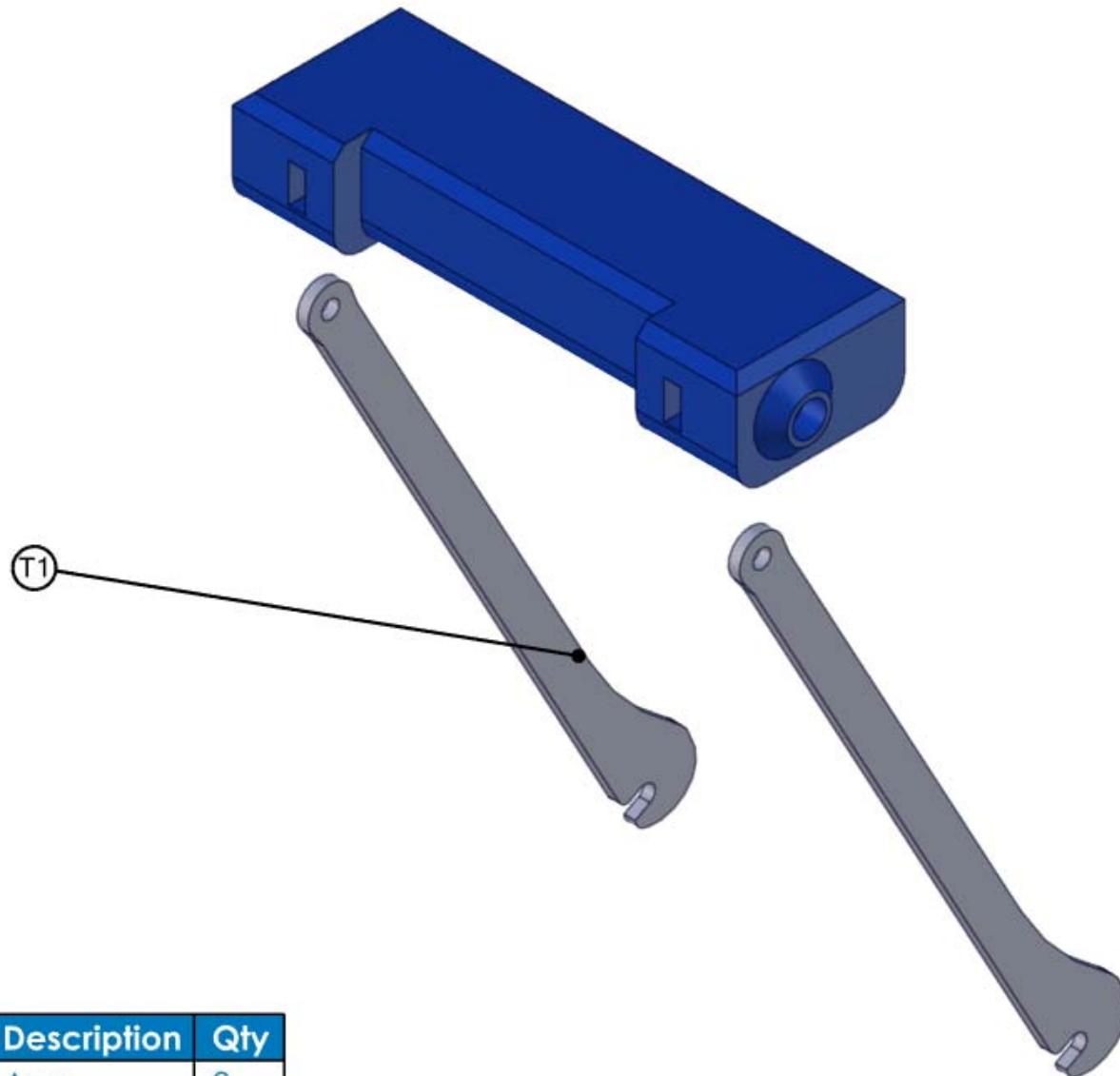
## Tirantes



Main View

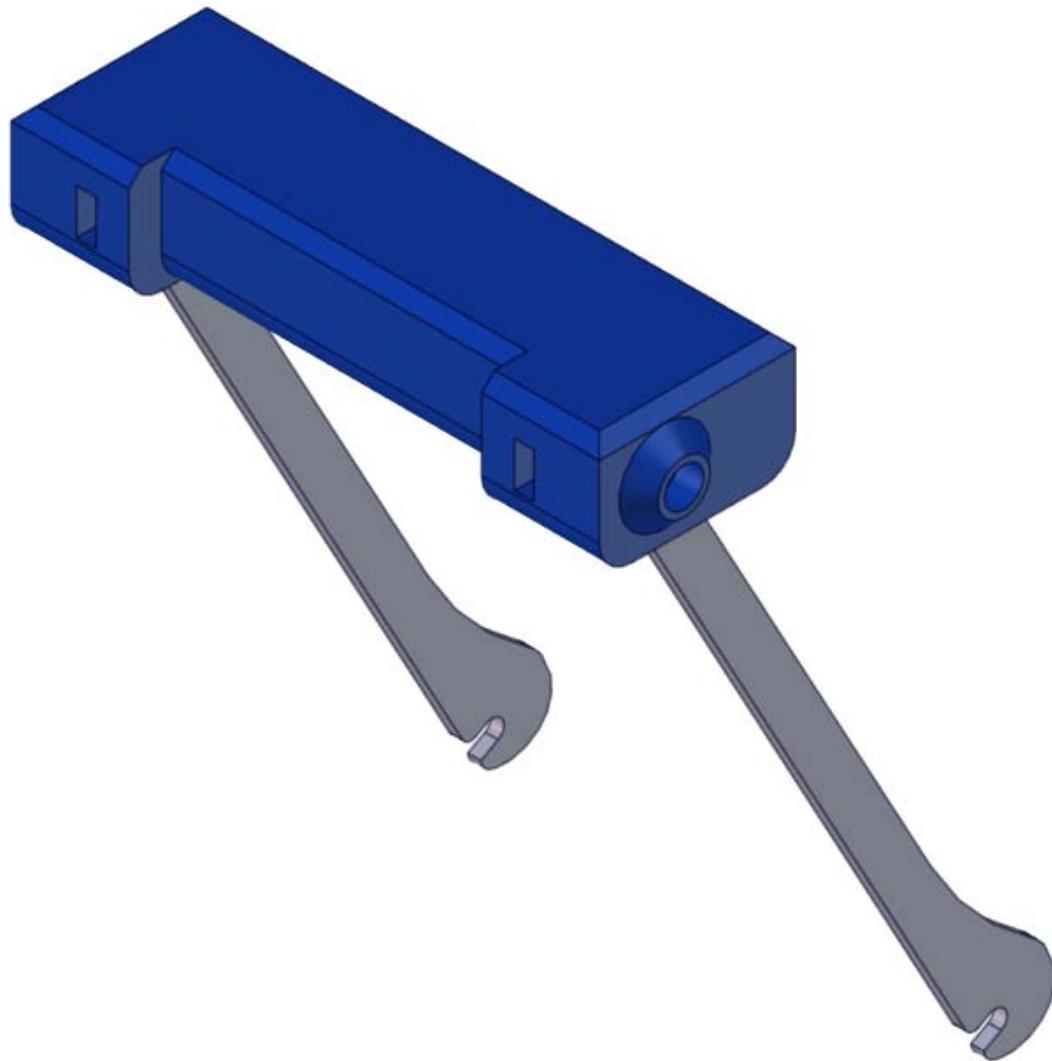


BOM ID	Description	Qty
S3	Selfoil A-8-10	2
S2	Bar Holder	1

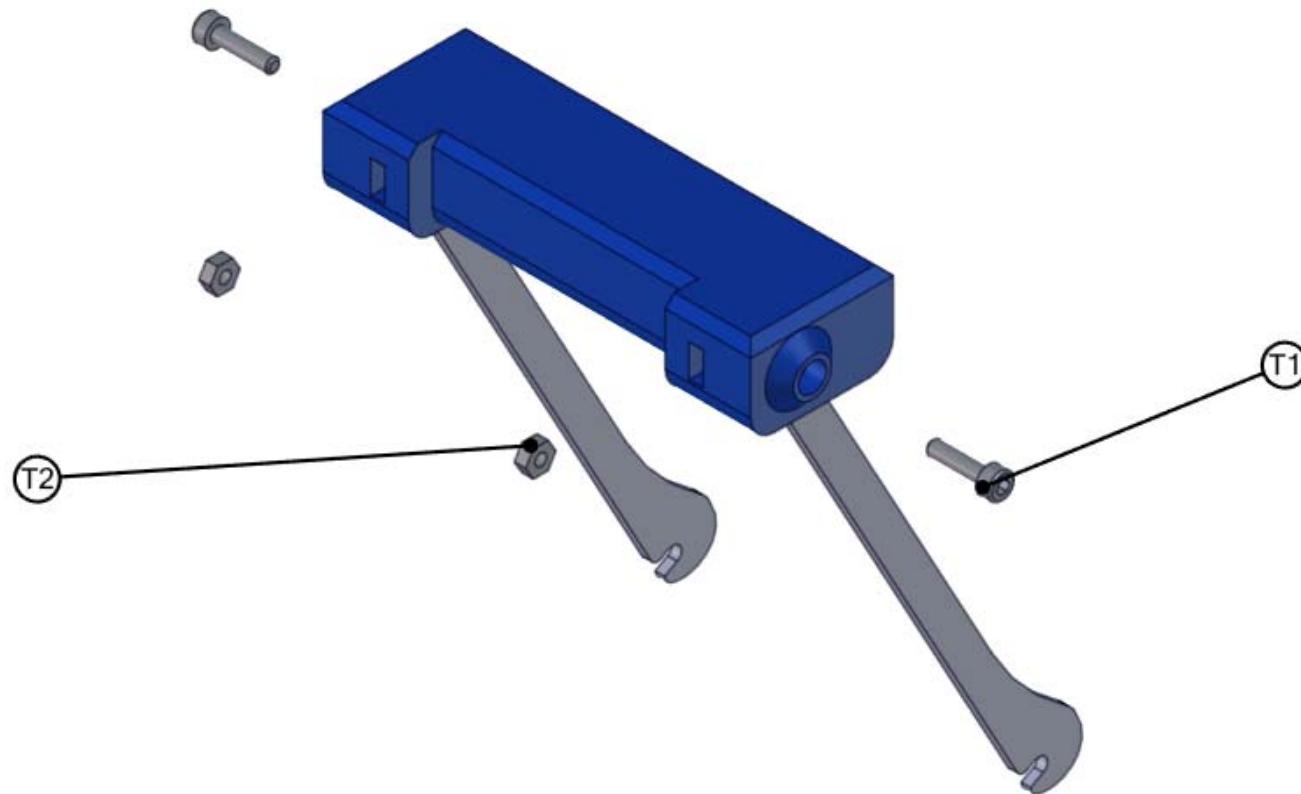


BOM ID	Description	Qty
T1	Arm	2

41

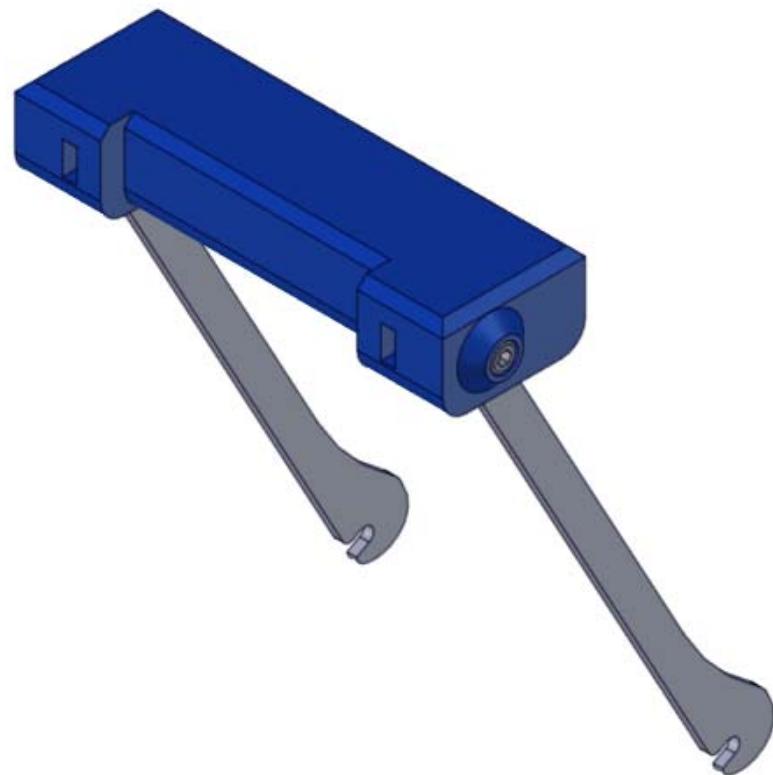


42



BOM ID	Description	Qty
T2	DIN934 M3	2
T1	DIN912 M3x12	2

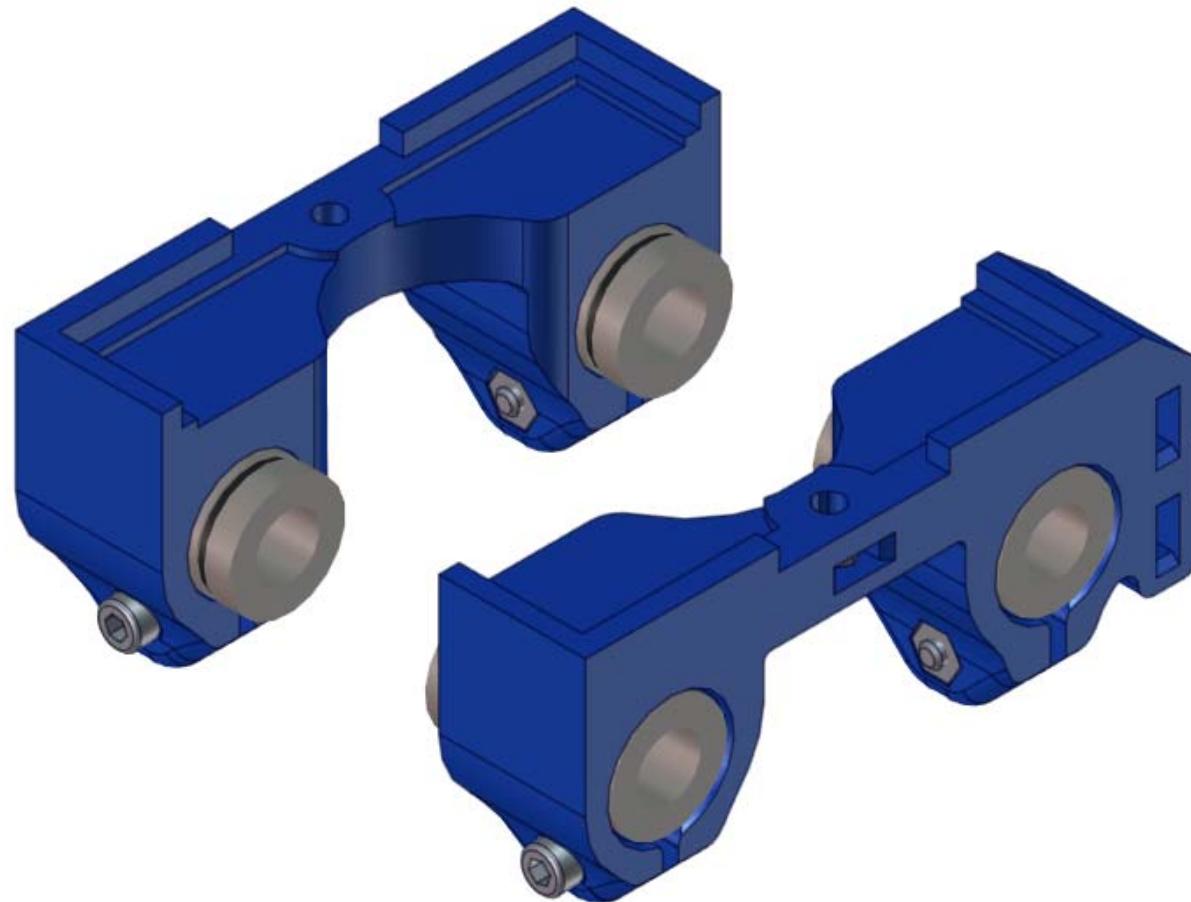
43



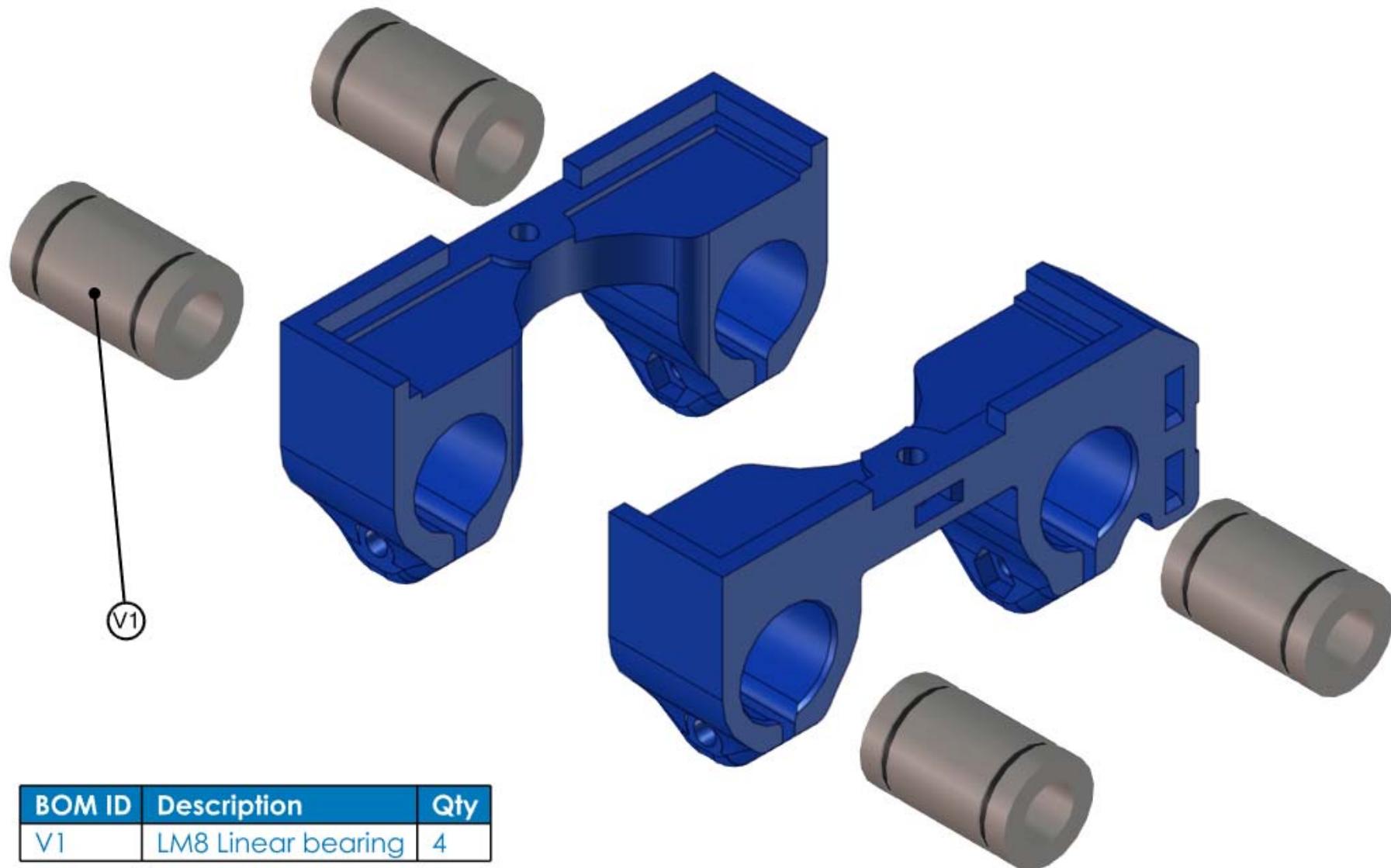


# PASTE EXTRUDER

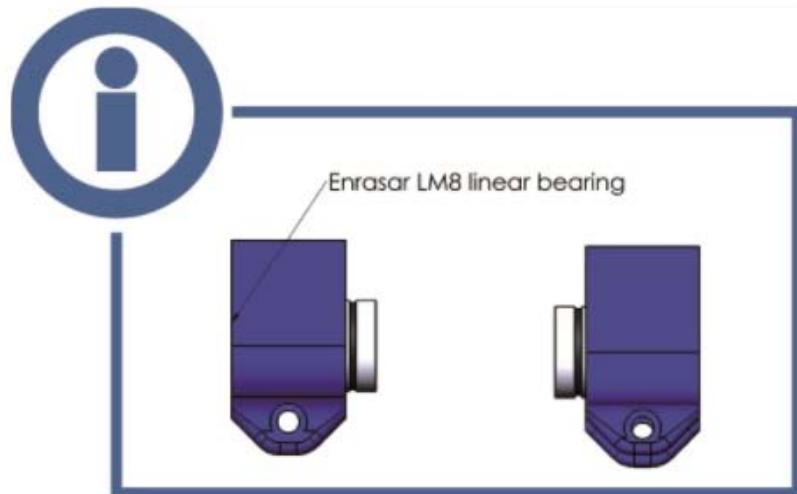
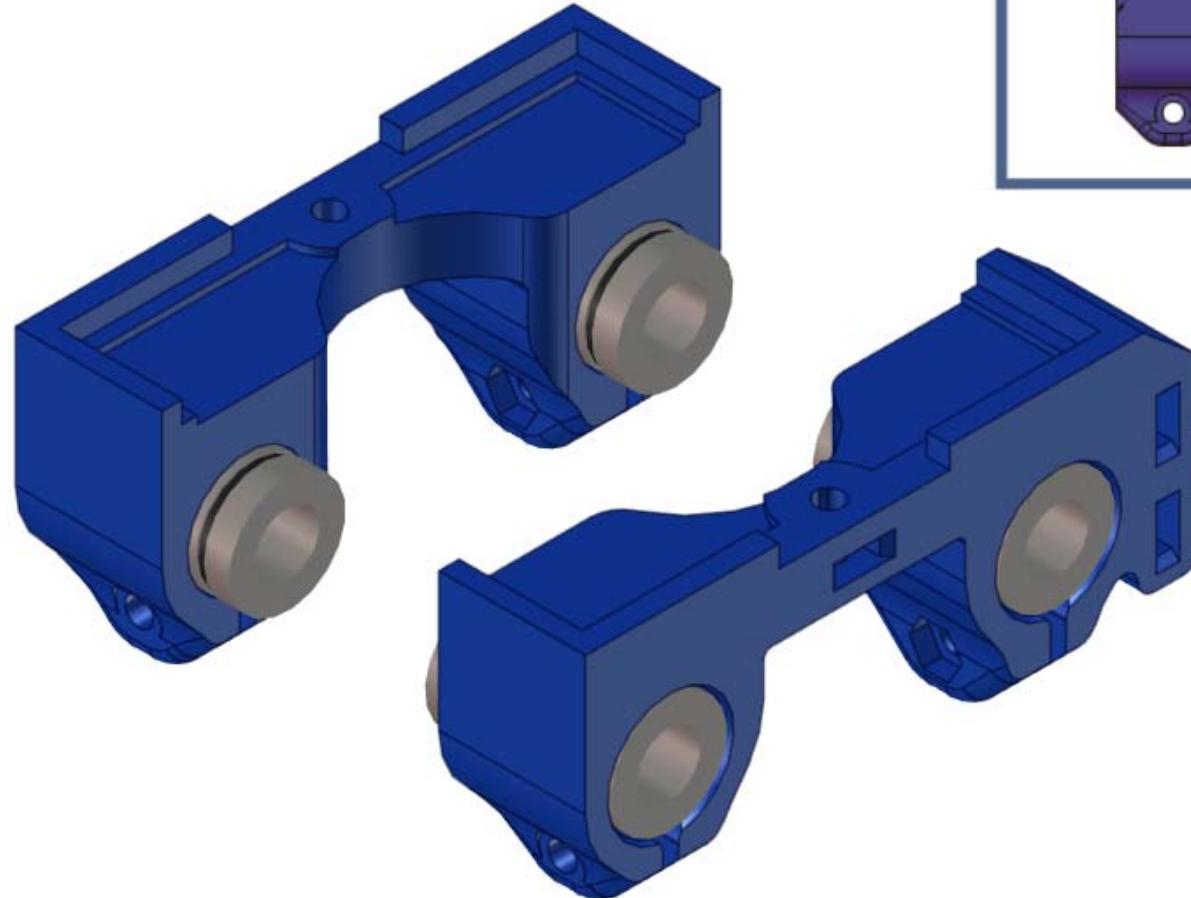
## Carriage

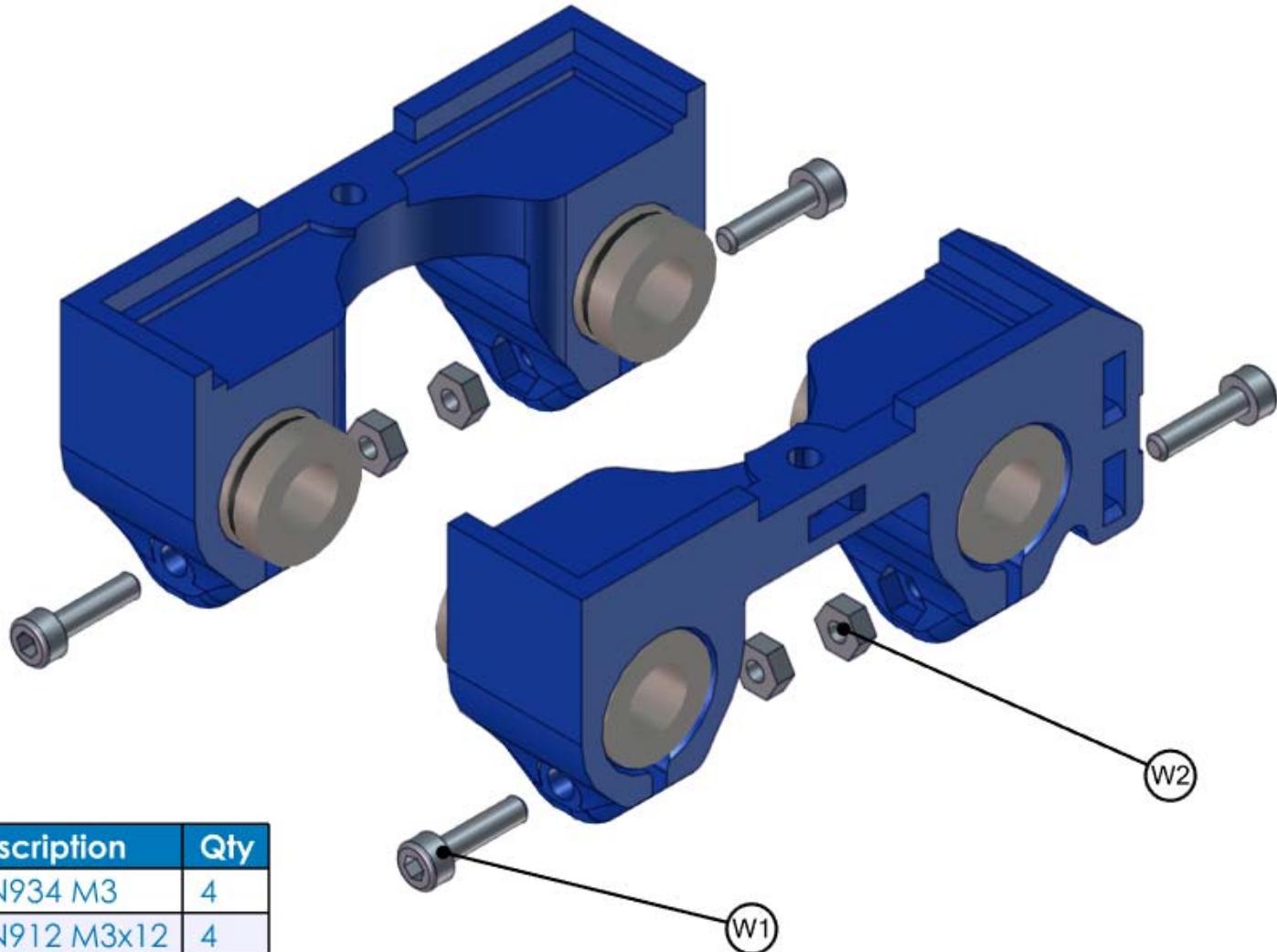


Main View



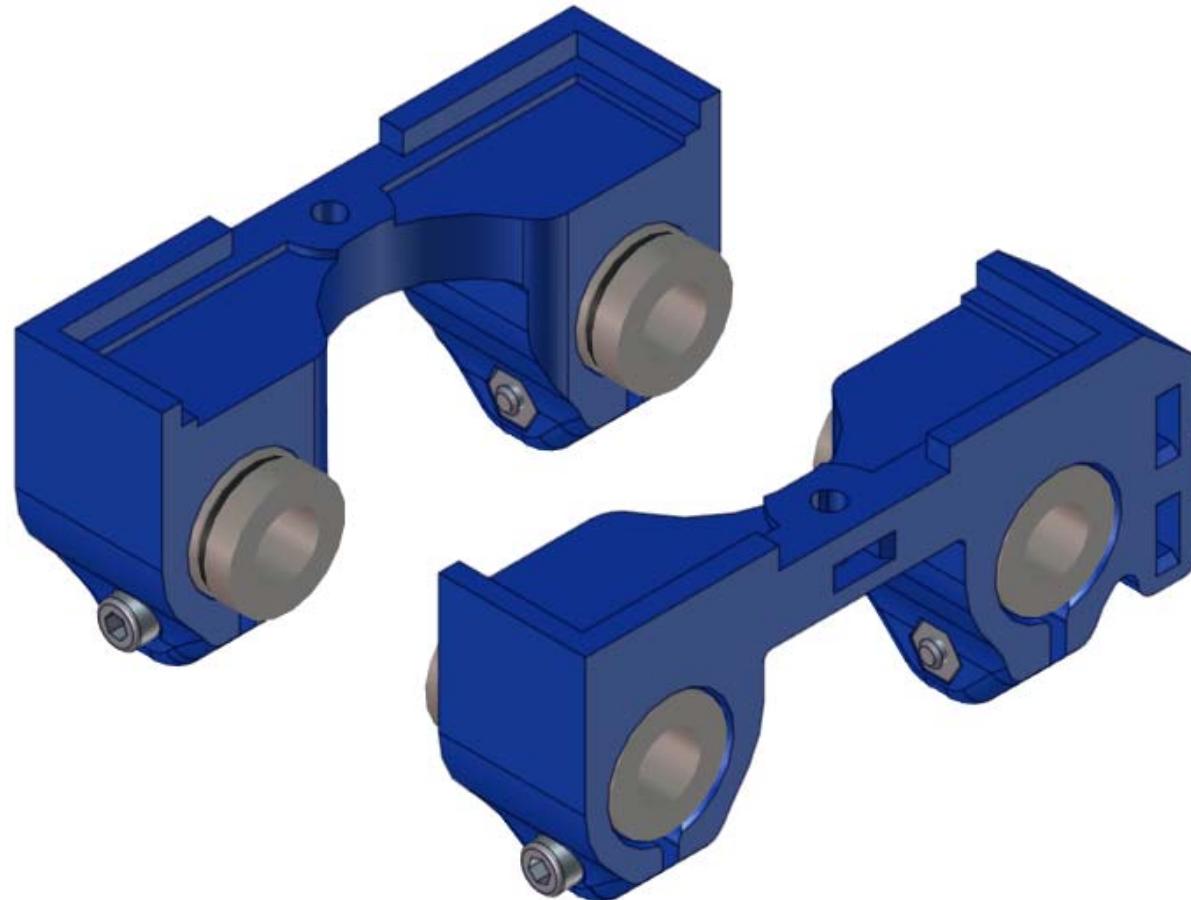
BOM ID	Description	Qty
V1	LM8 Linear bearing	4





BOM ID	Description	Qty
W2	DIN934 M3	4
W1	DIN912 M3x12	4

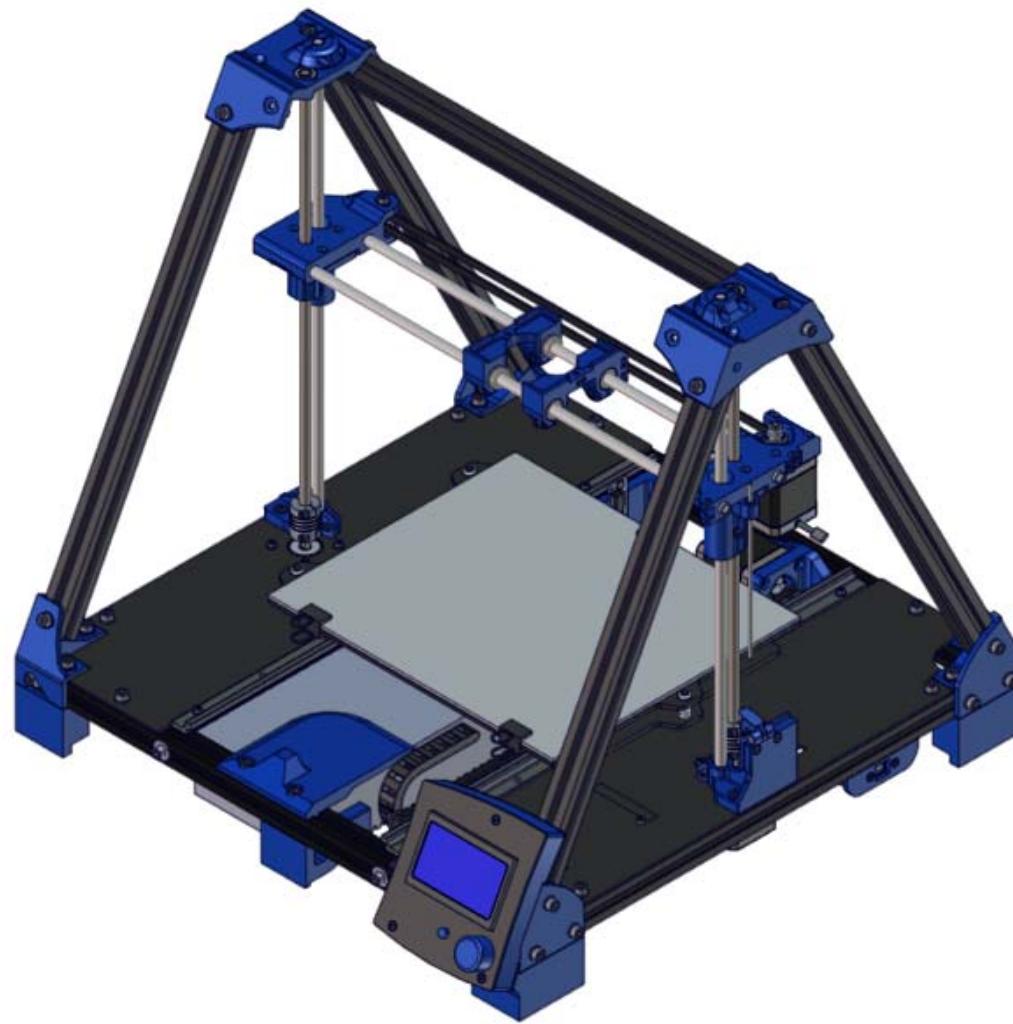
47



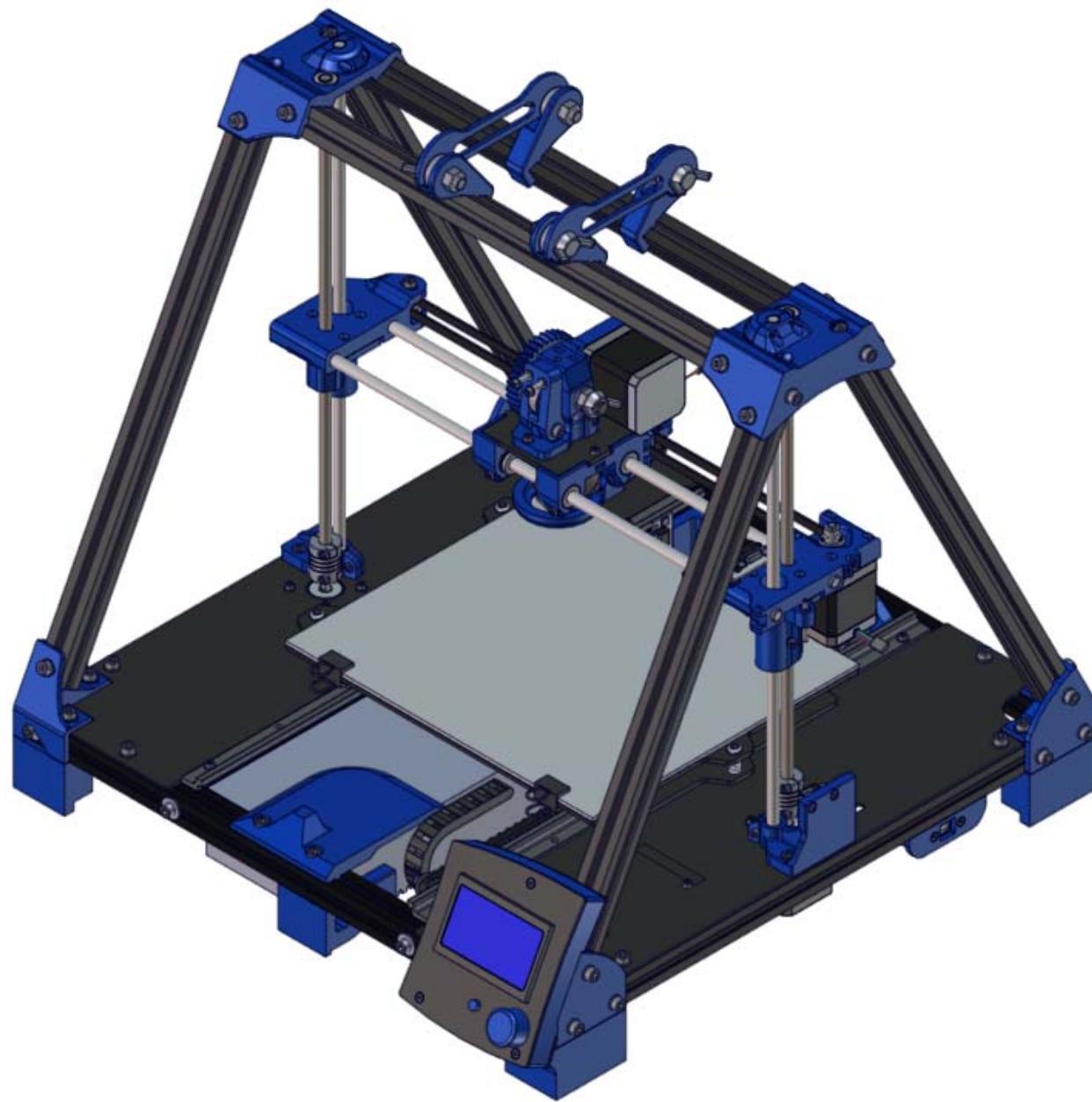


# PASTE EXTRUDER

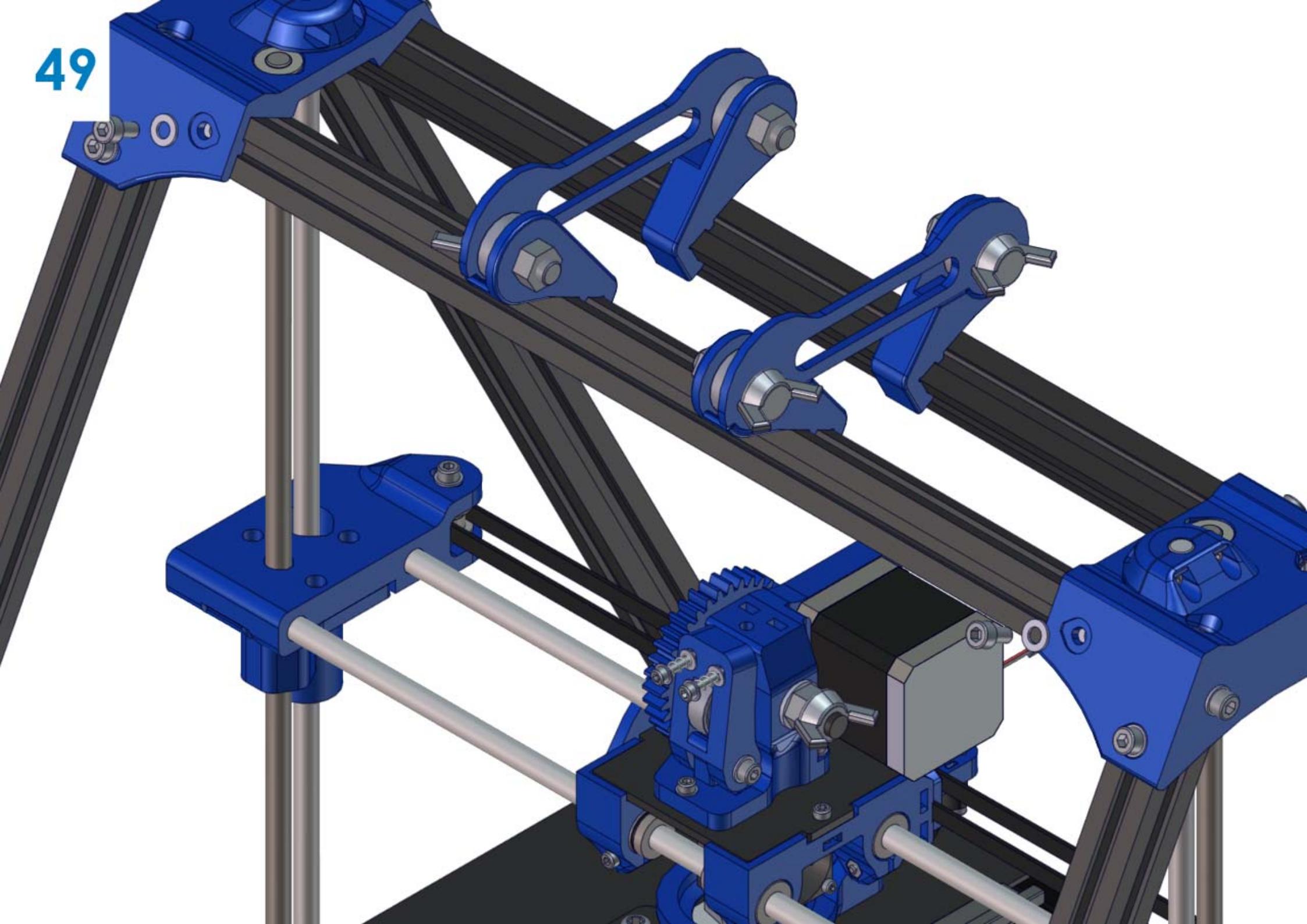
## Cambios en la Impresora



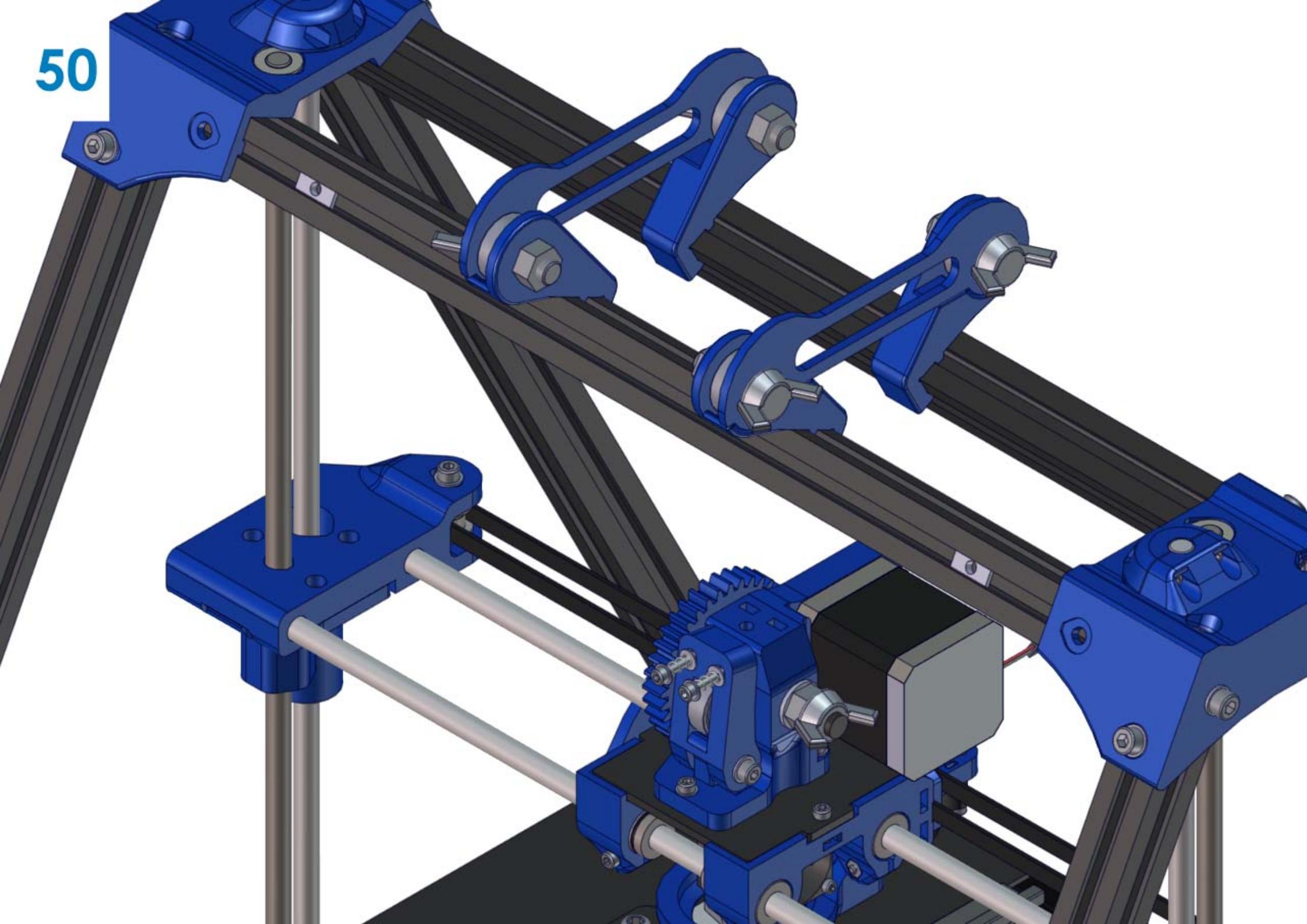
Main View



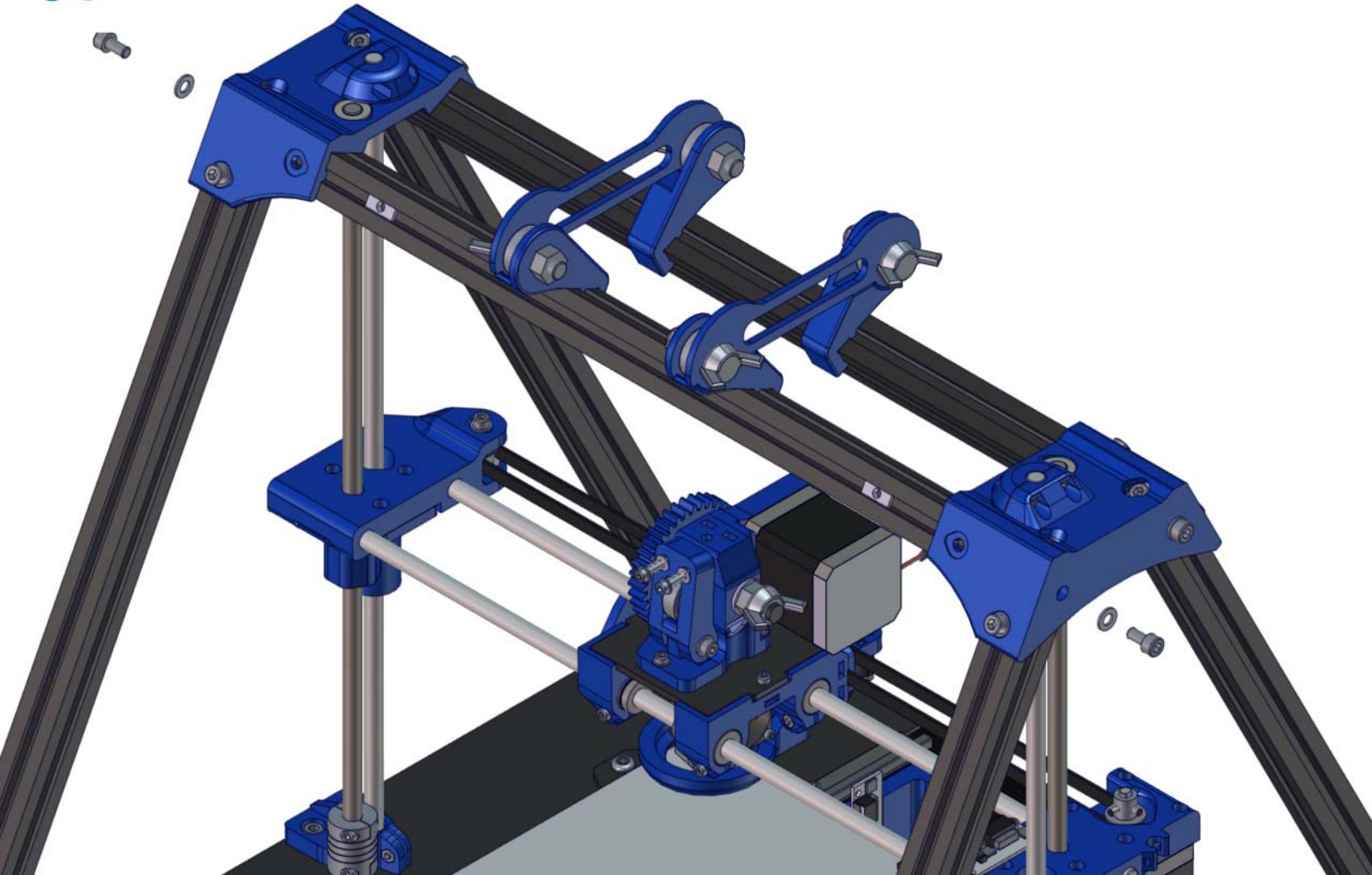
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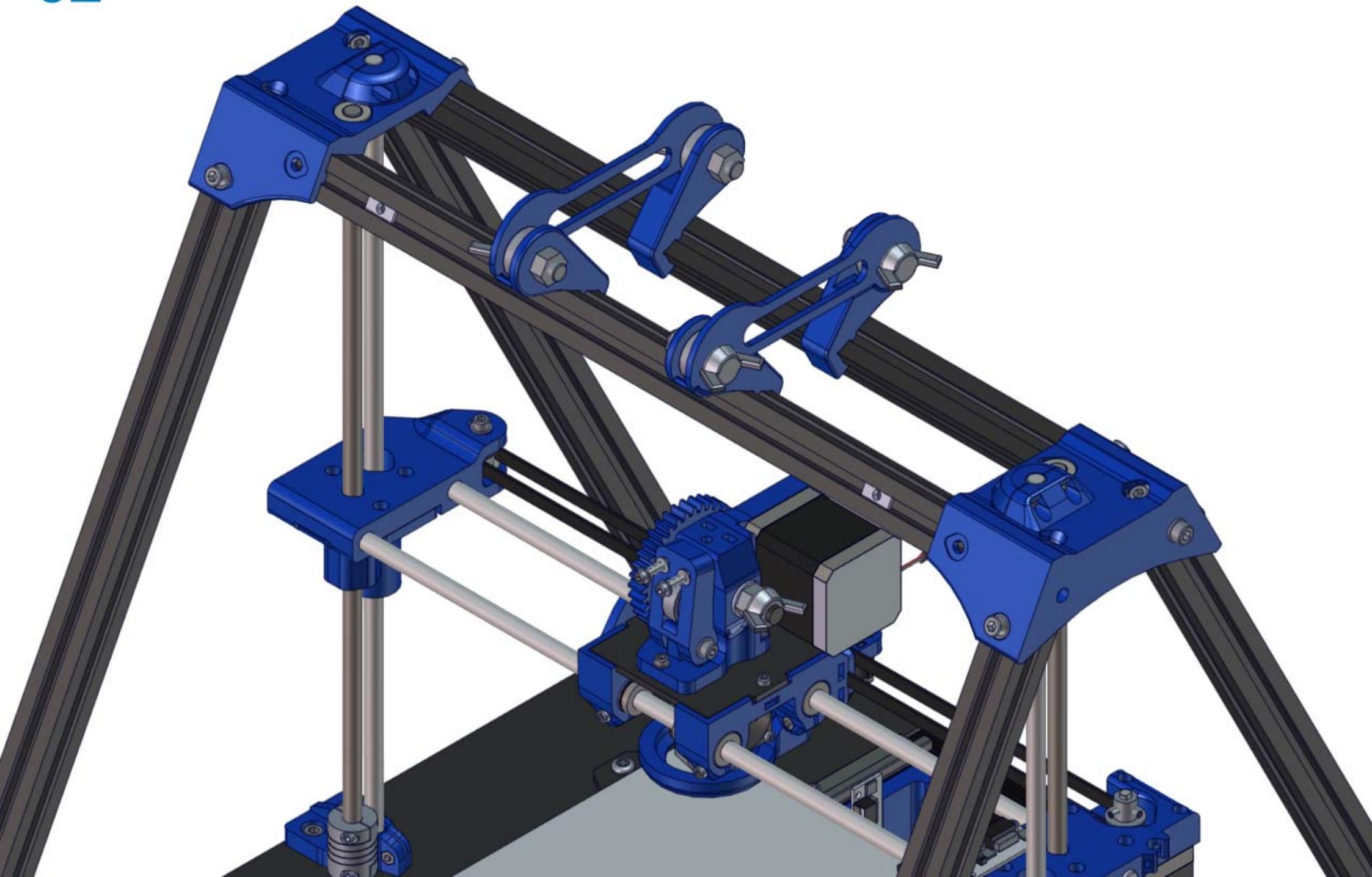


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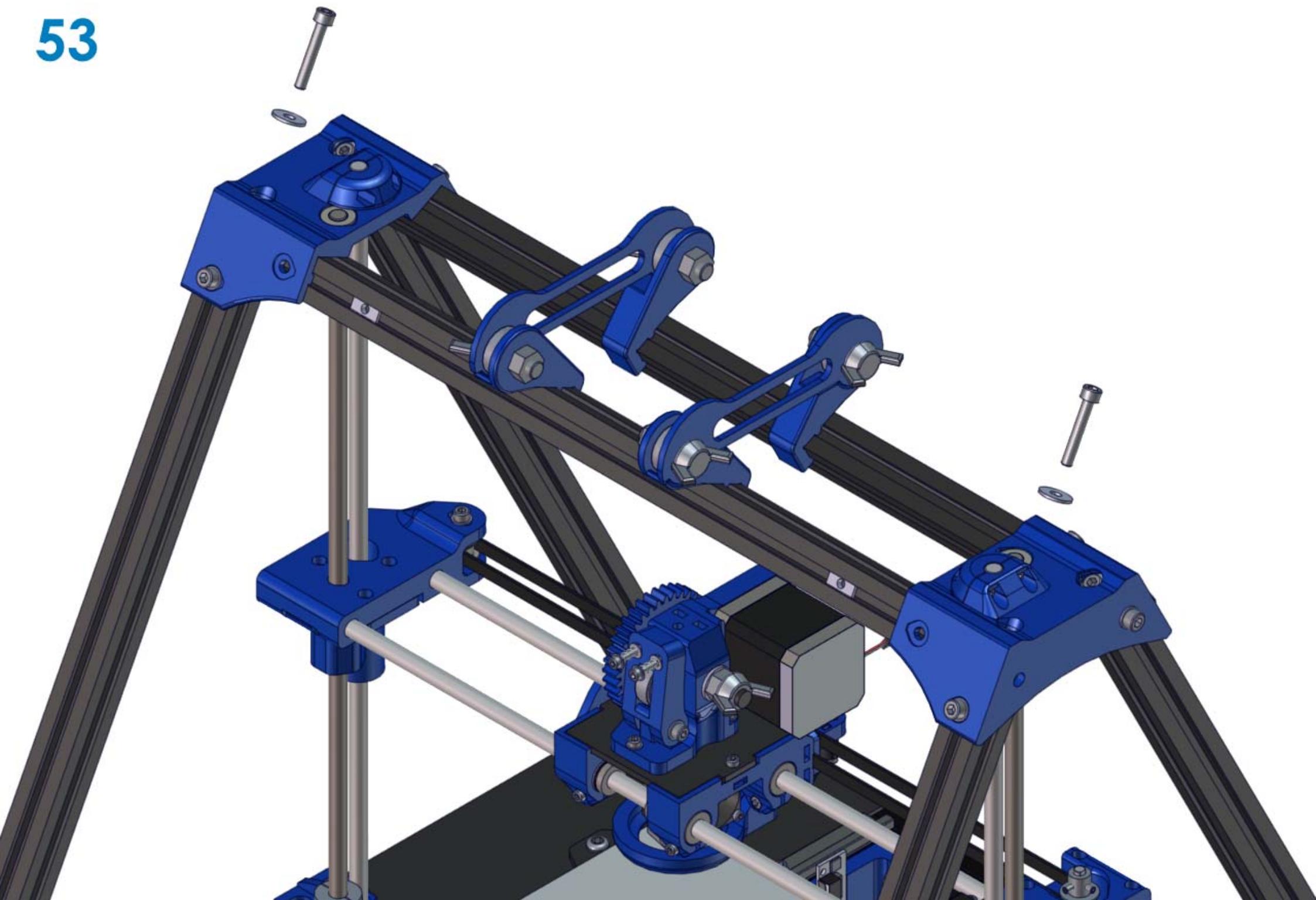


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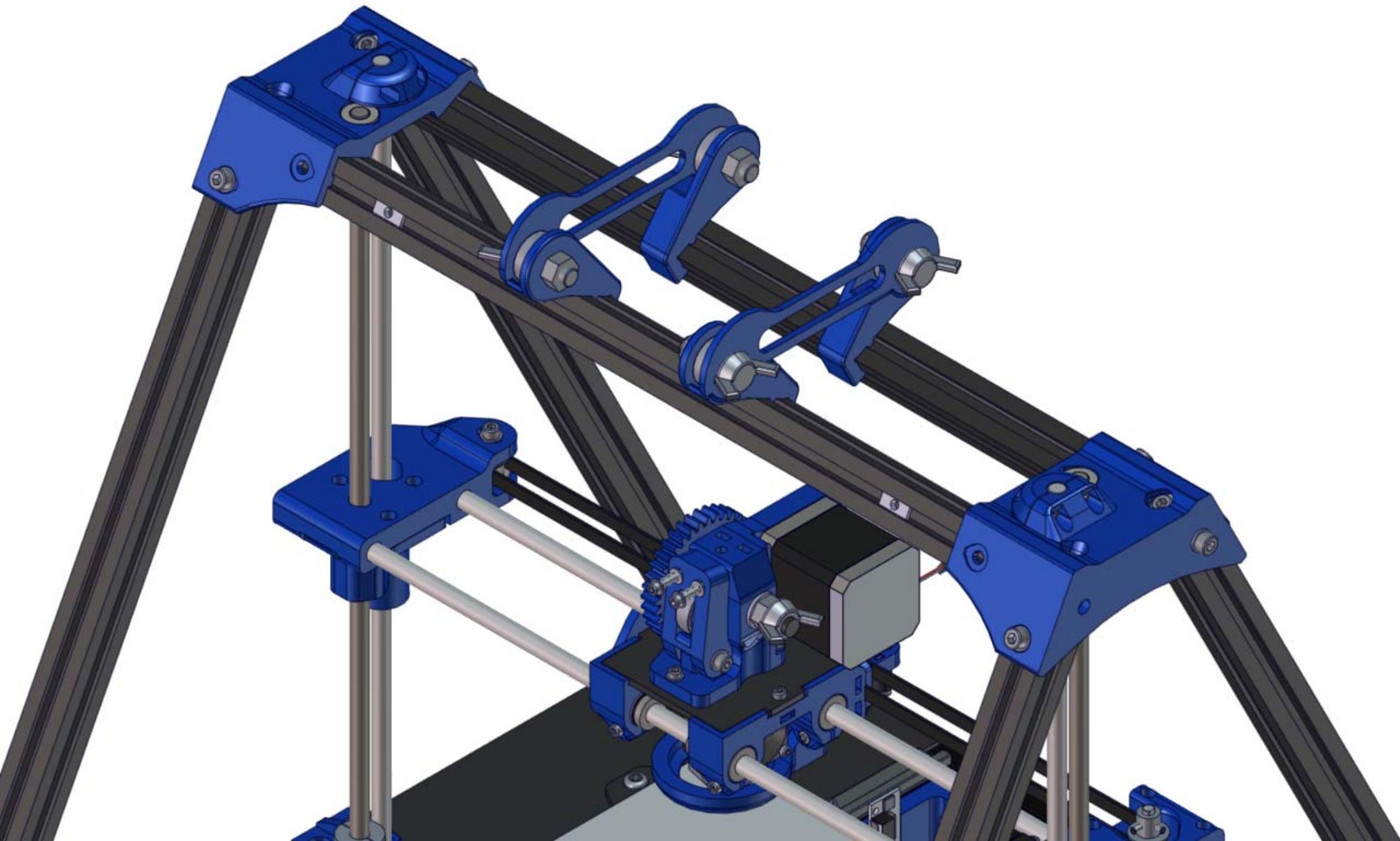




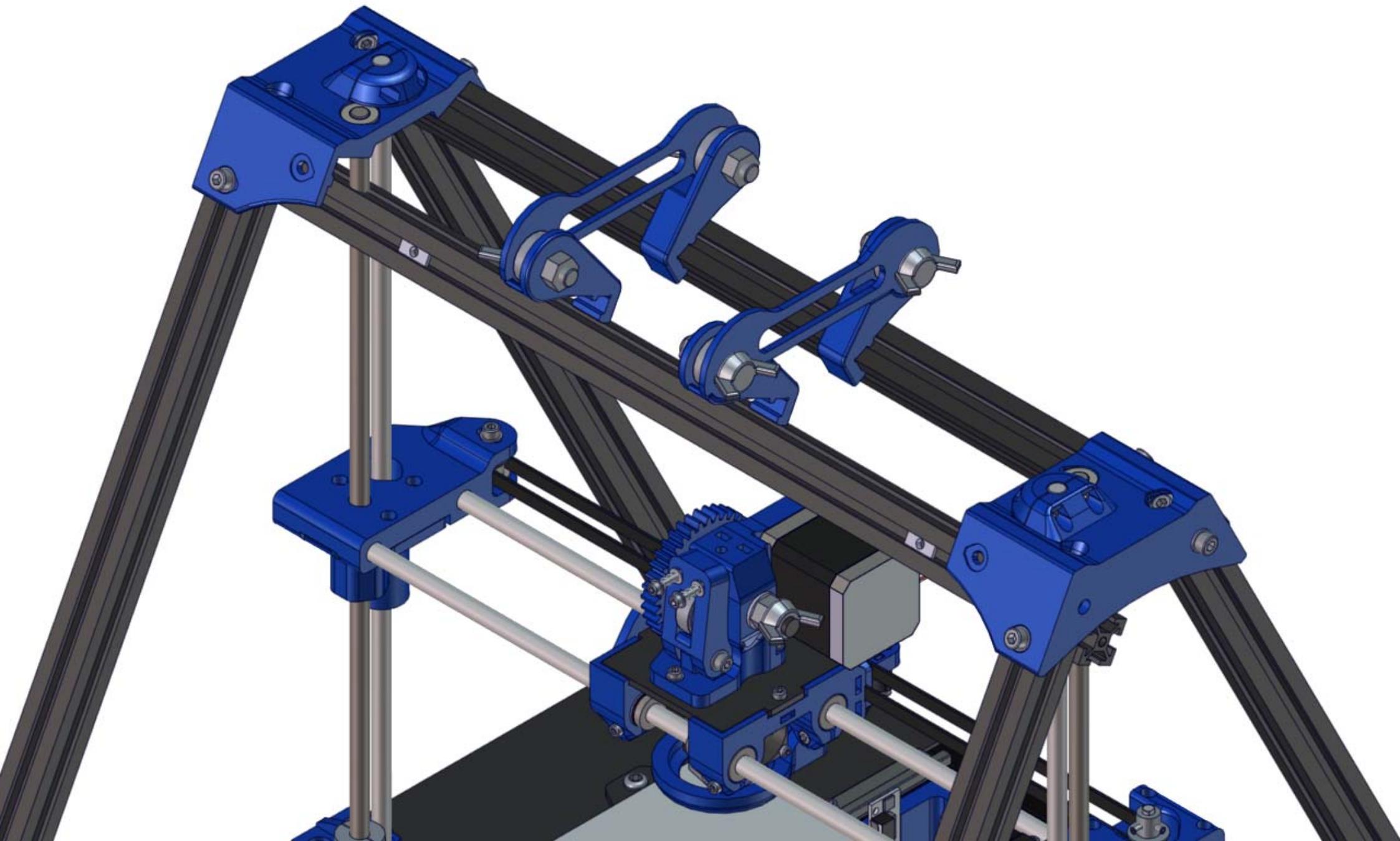
53



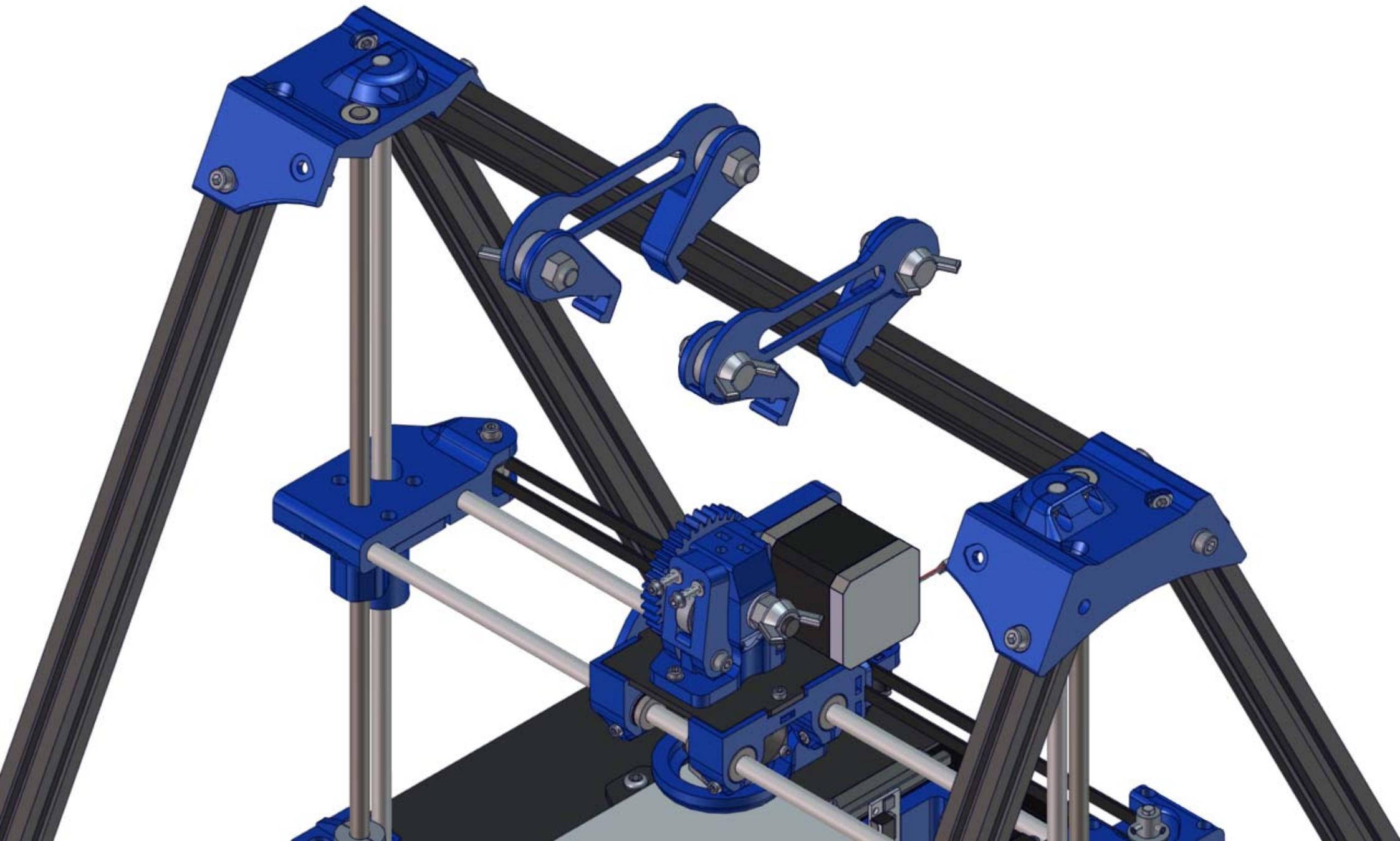
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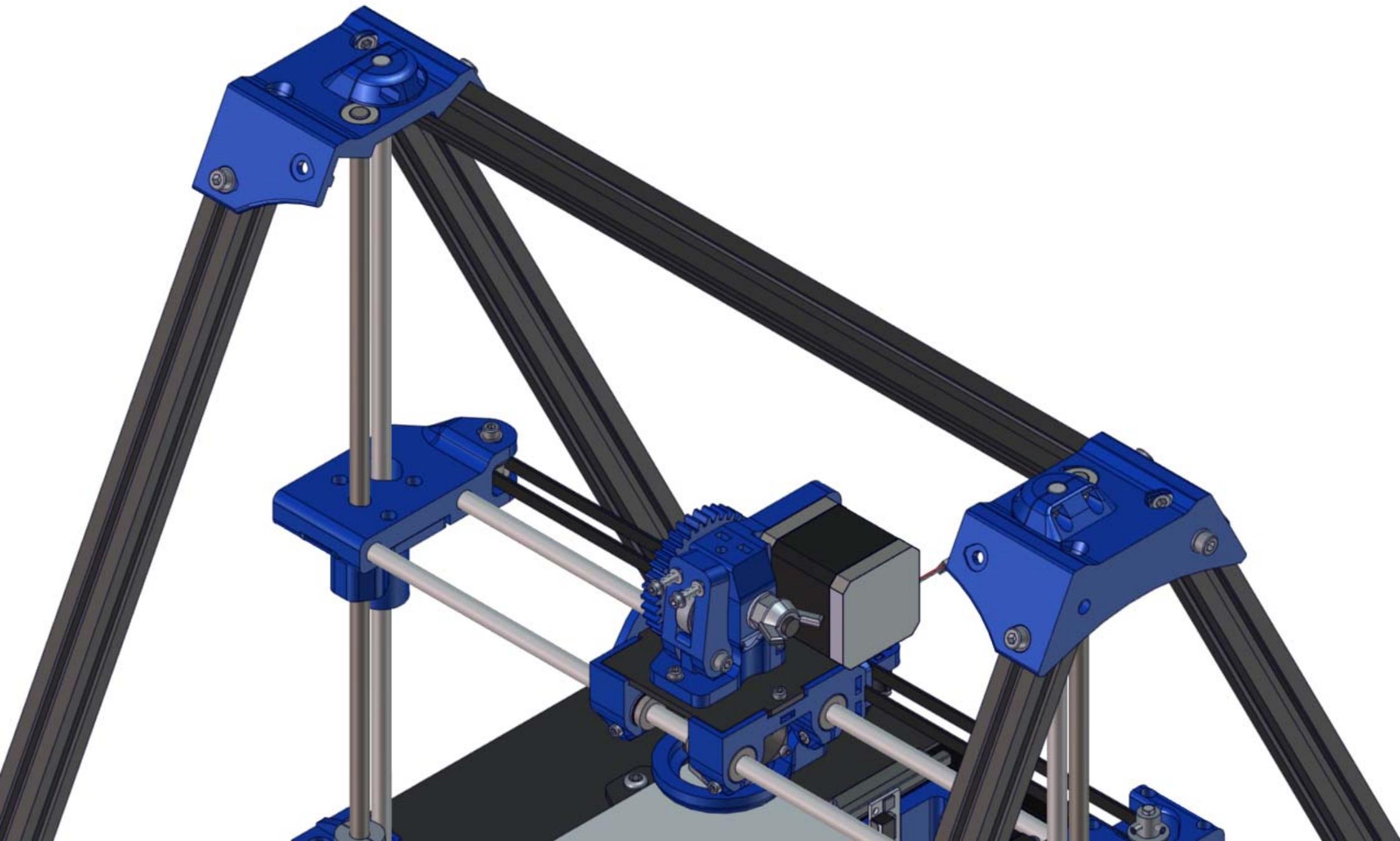
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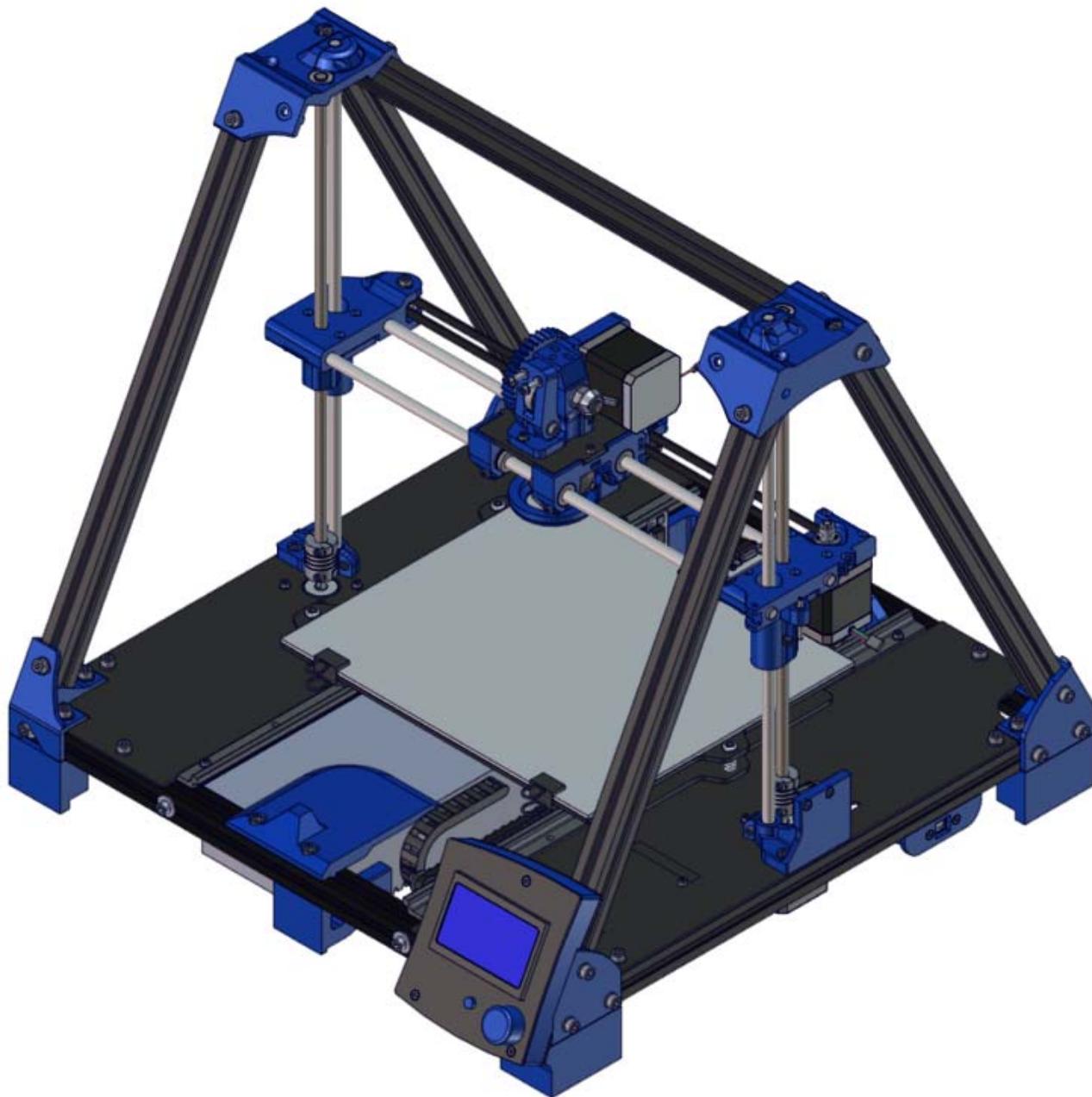
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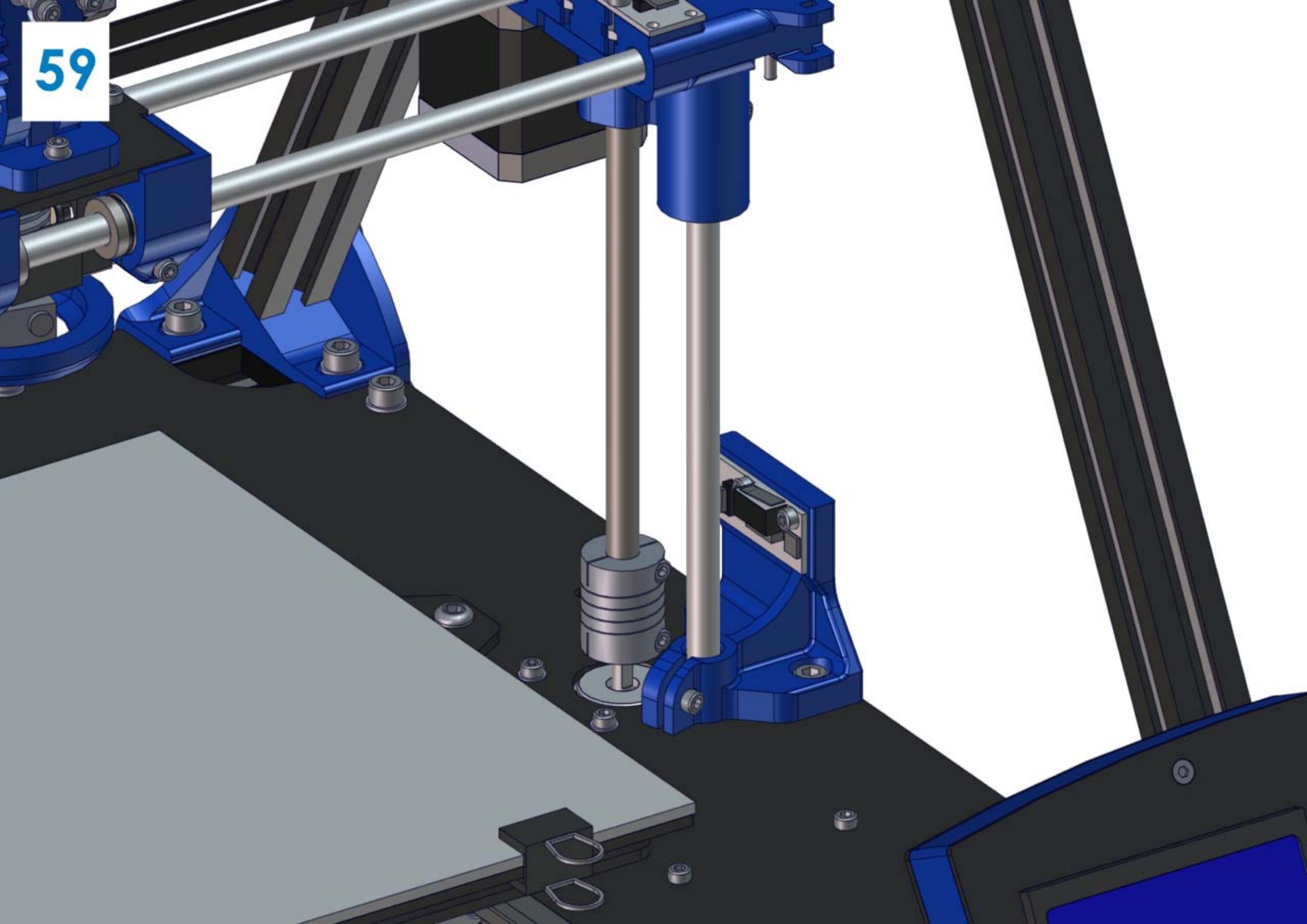
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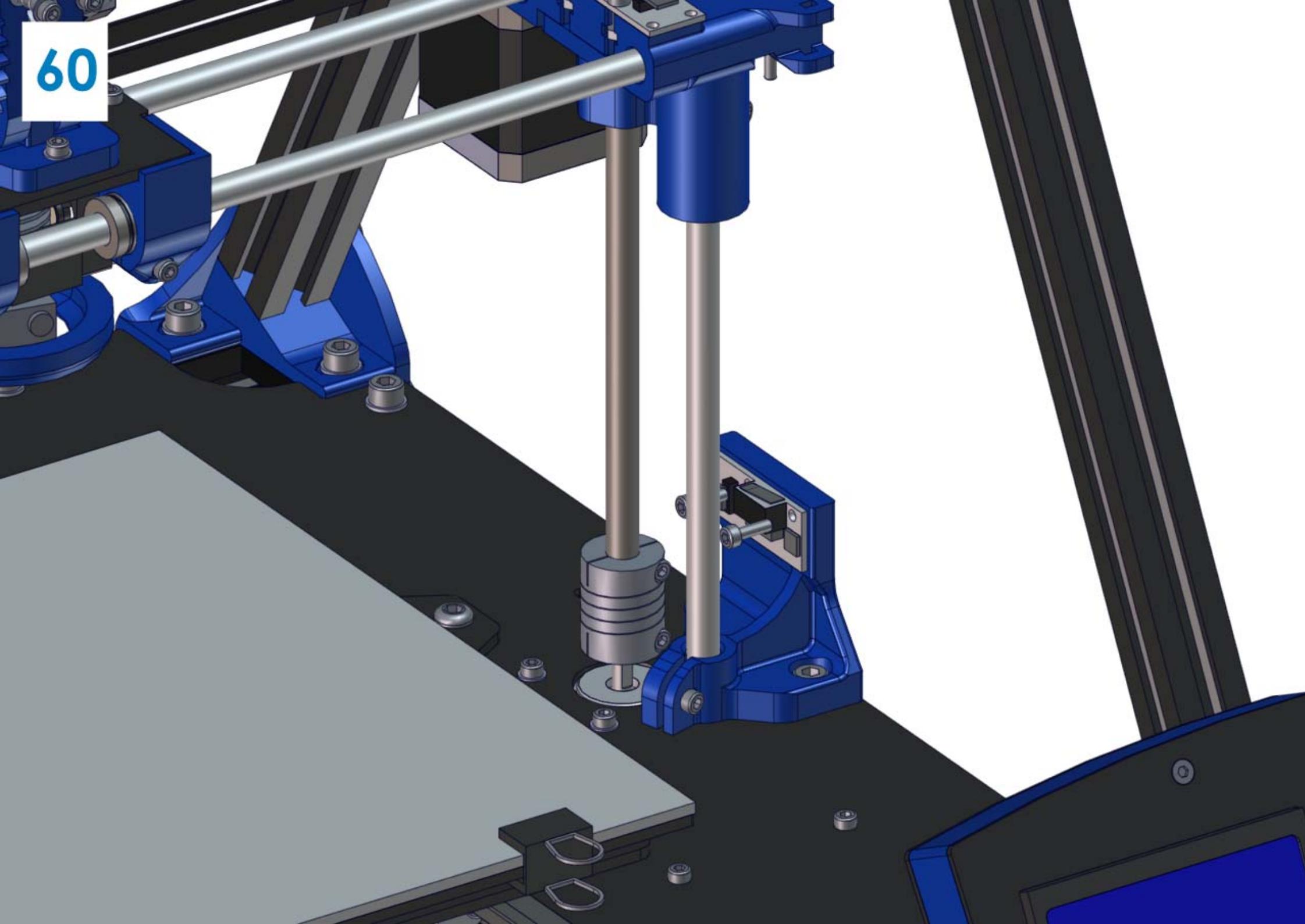
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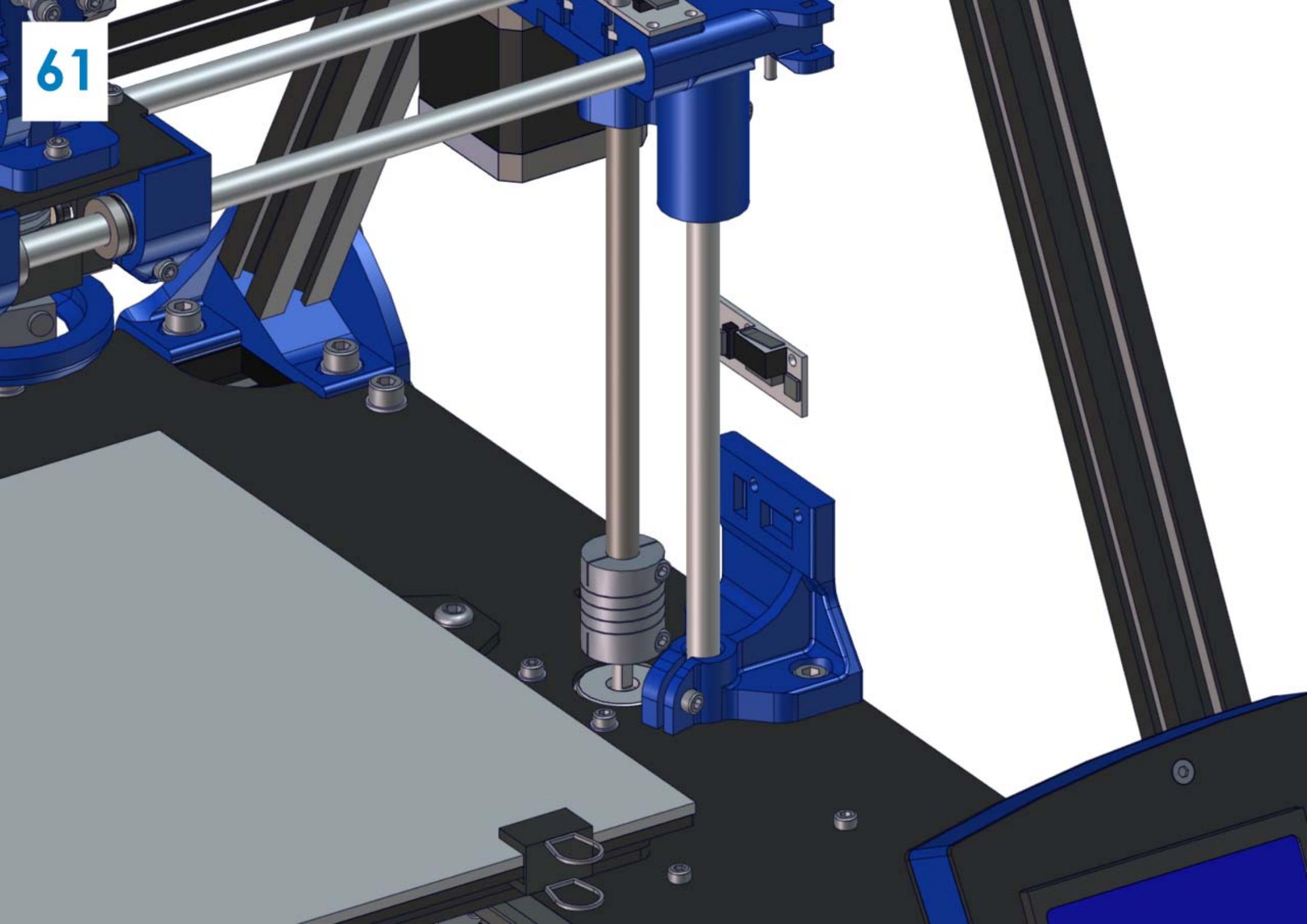
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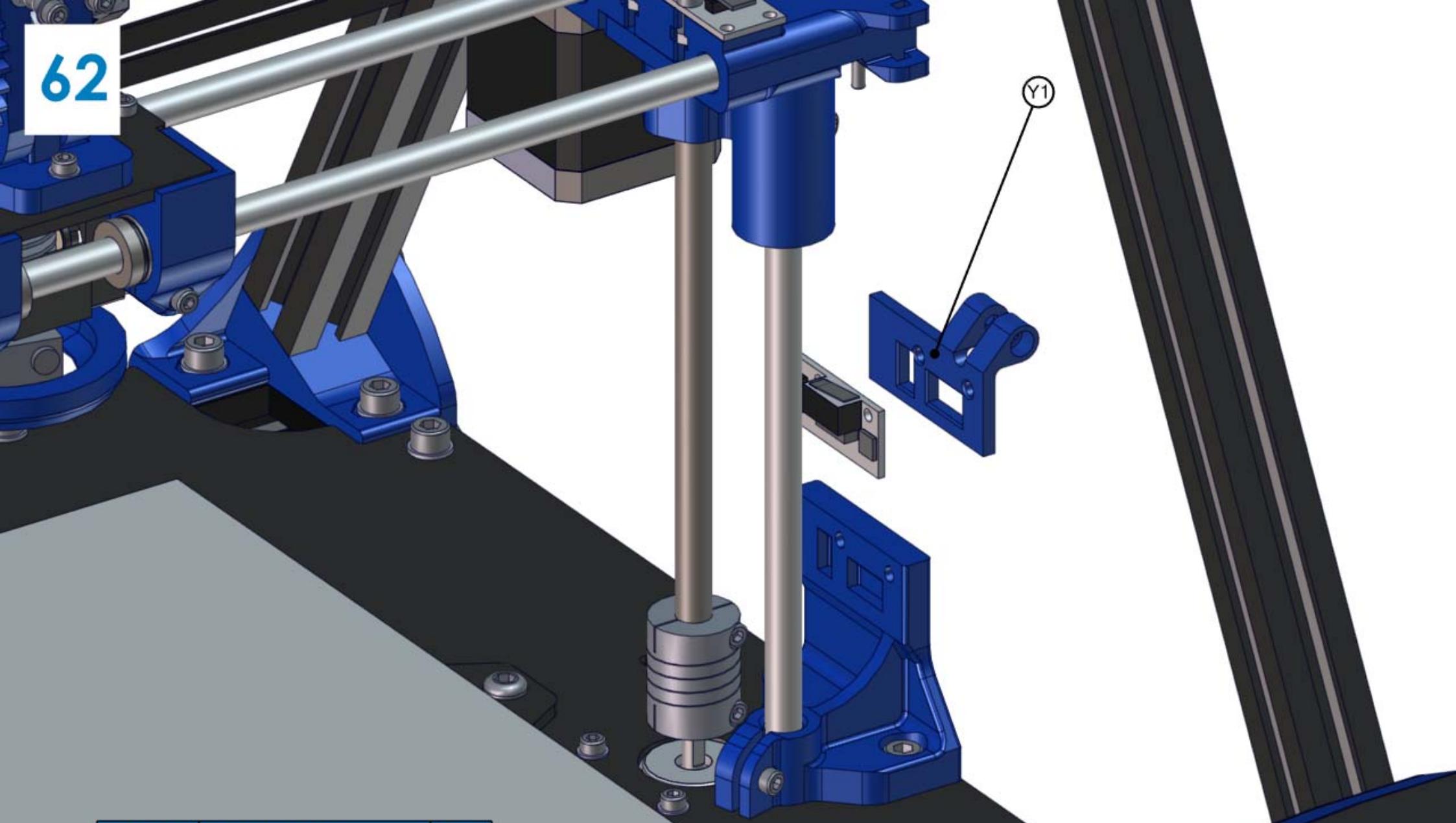
60



61

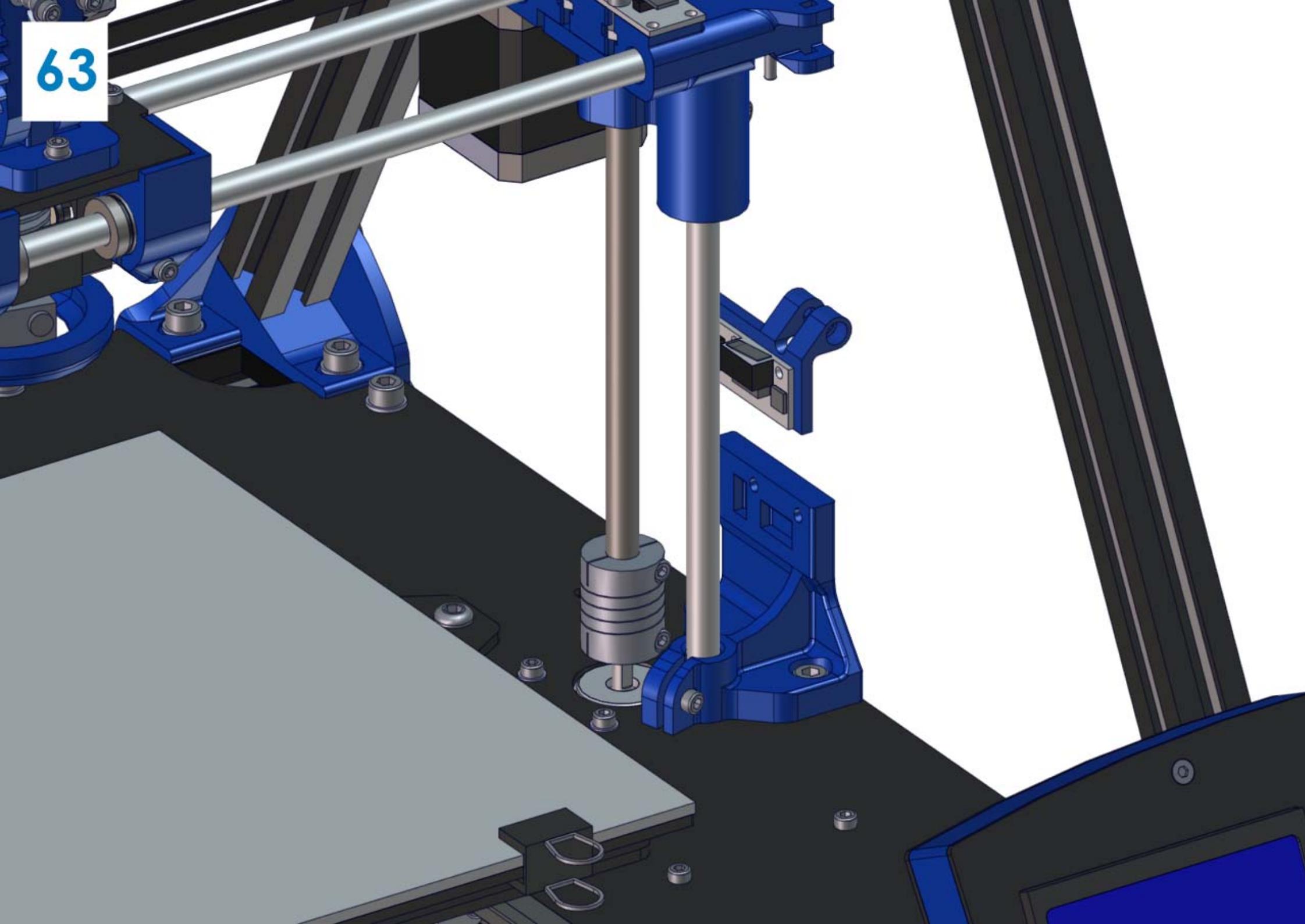


62

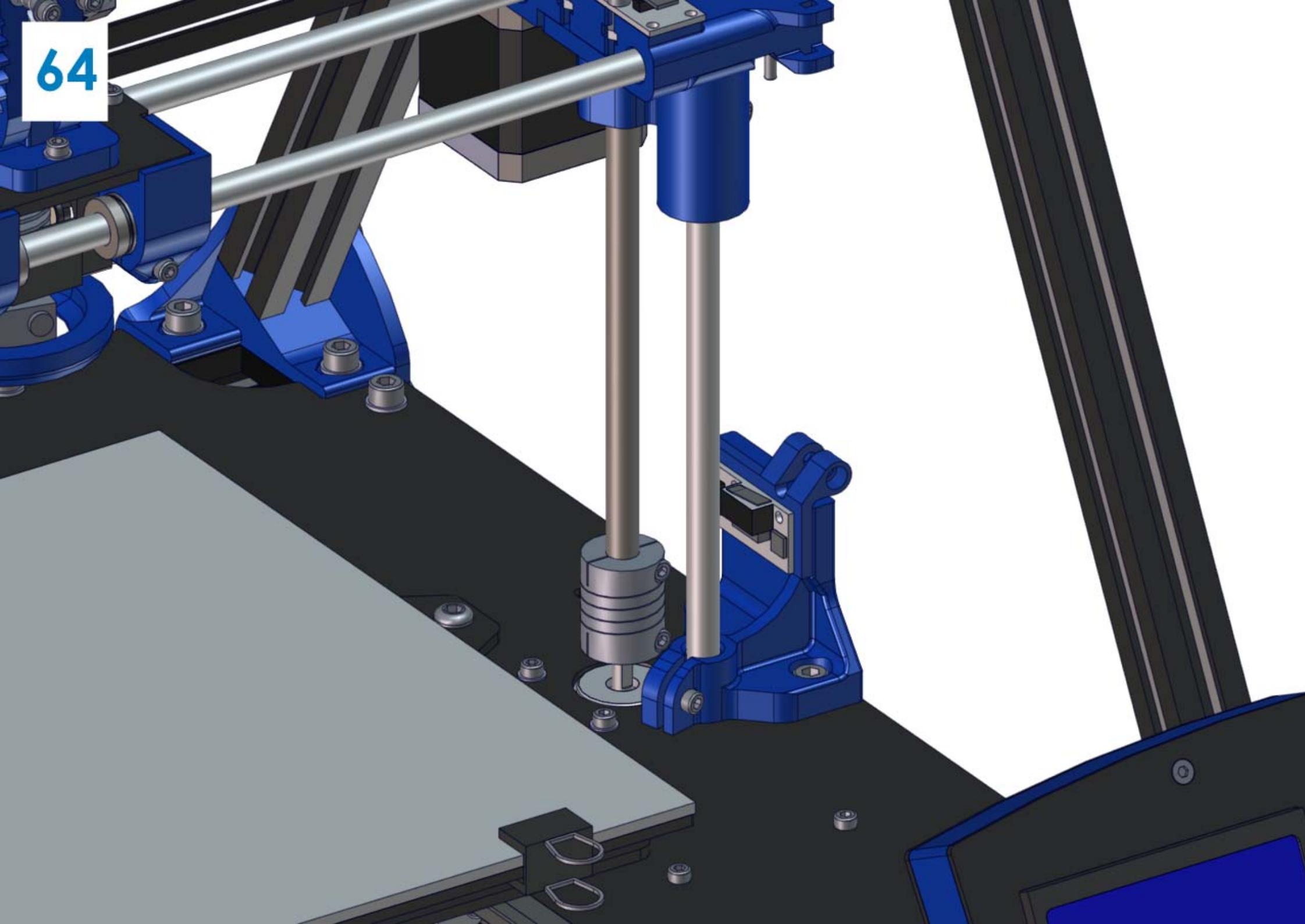


BOM ID	Description	Qty
Y1	Z EndstopFeature 1	1

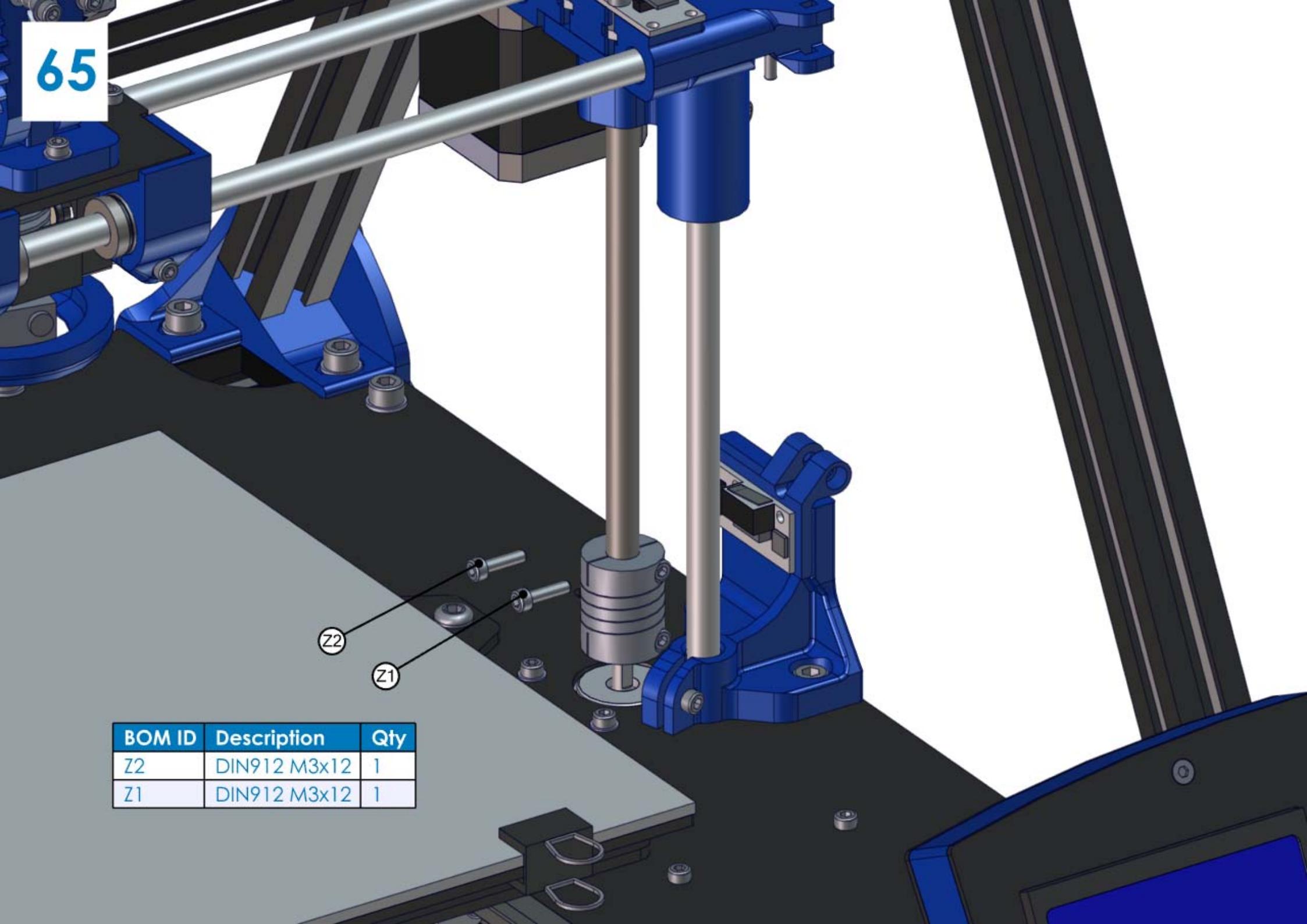
63



64

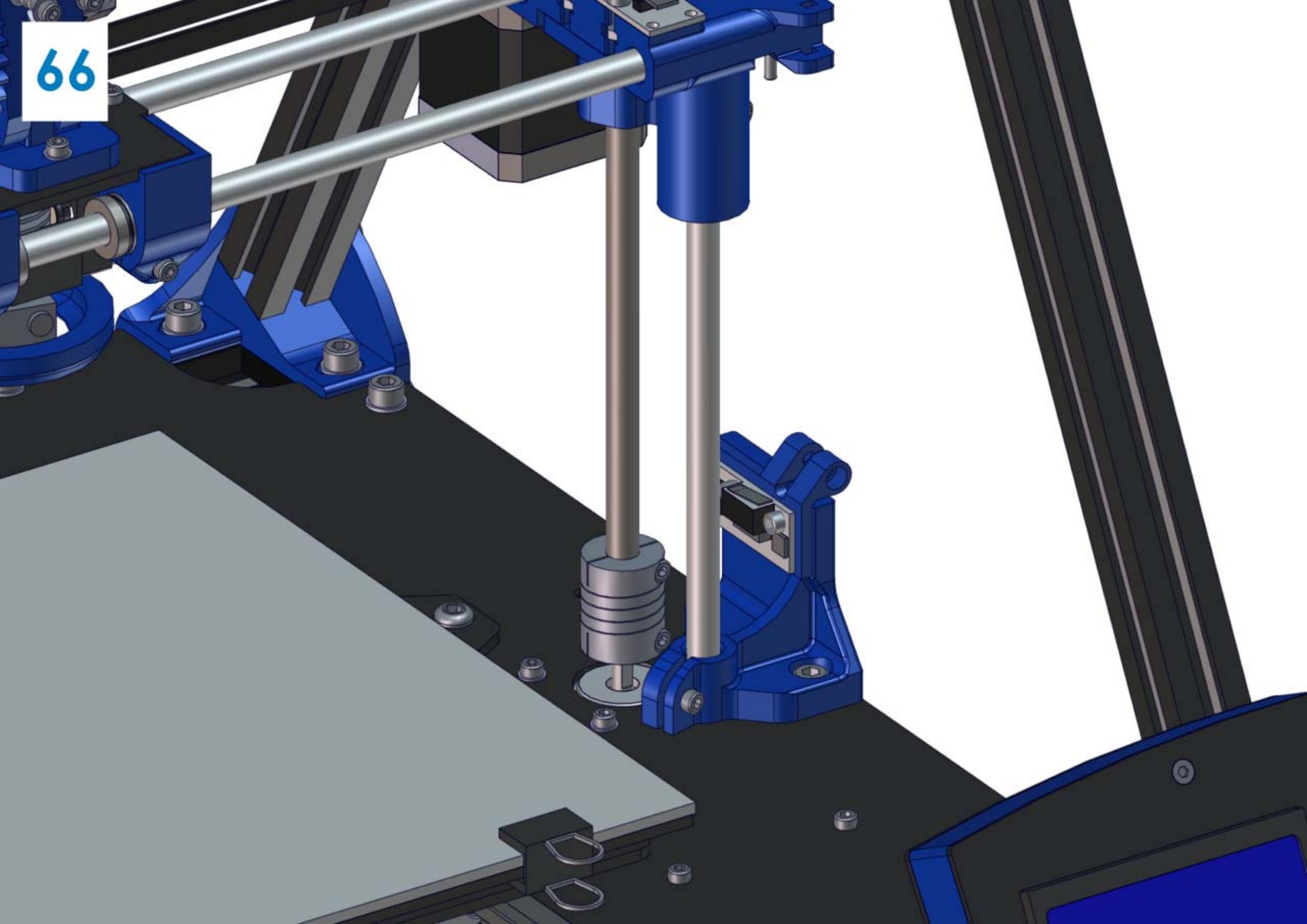


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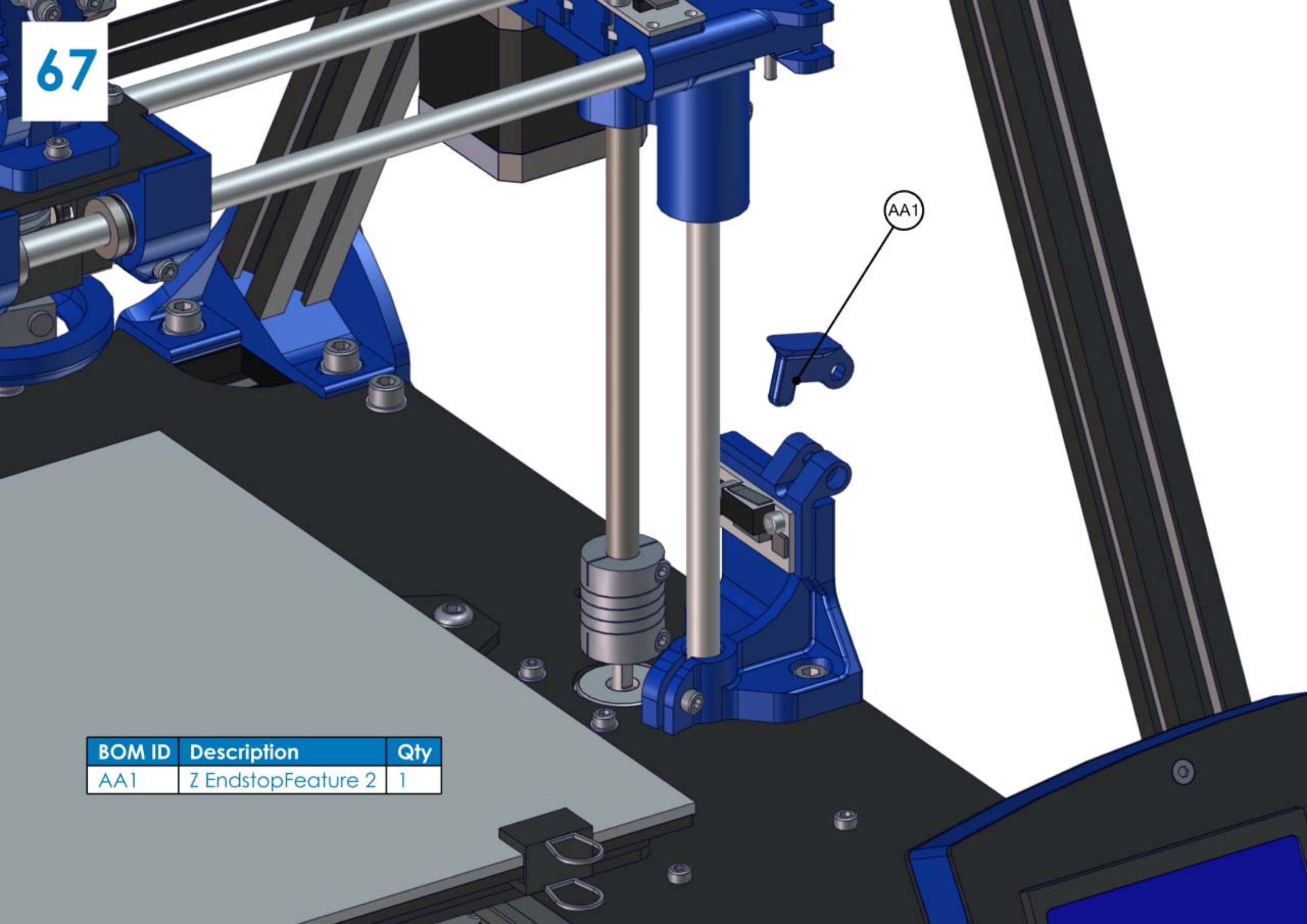


BOM ID	Description	Qty
Z2	DIN912 M3x12	1
Z1	DIN912 M3x12	1

66

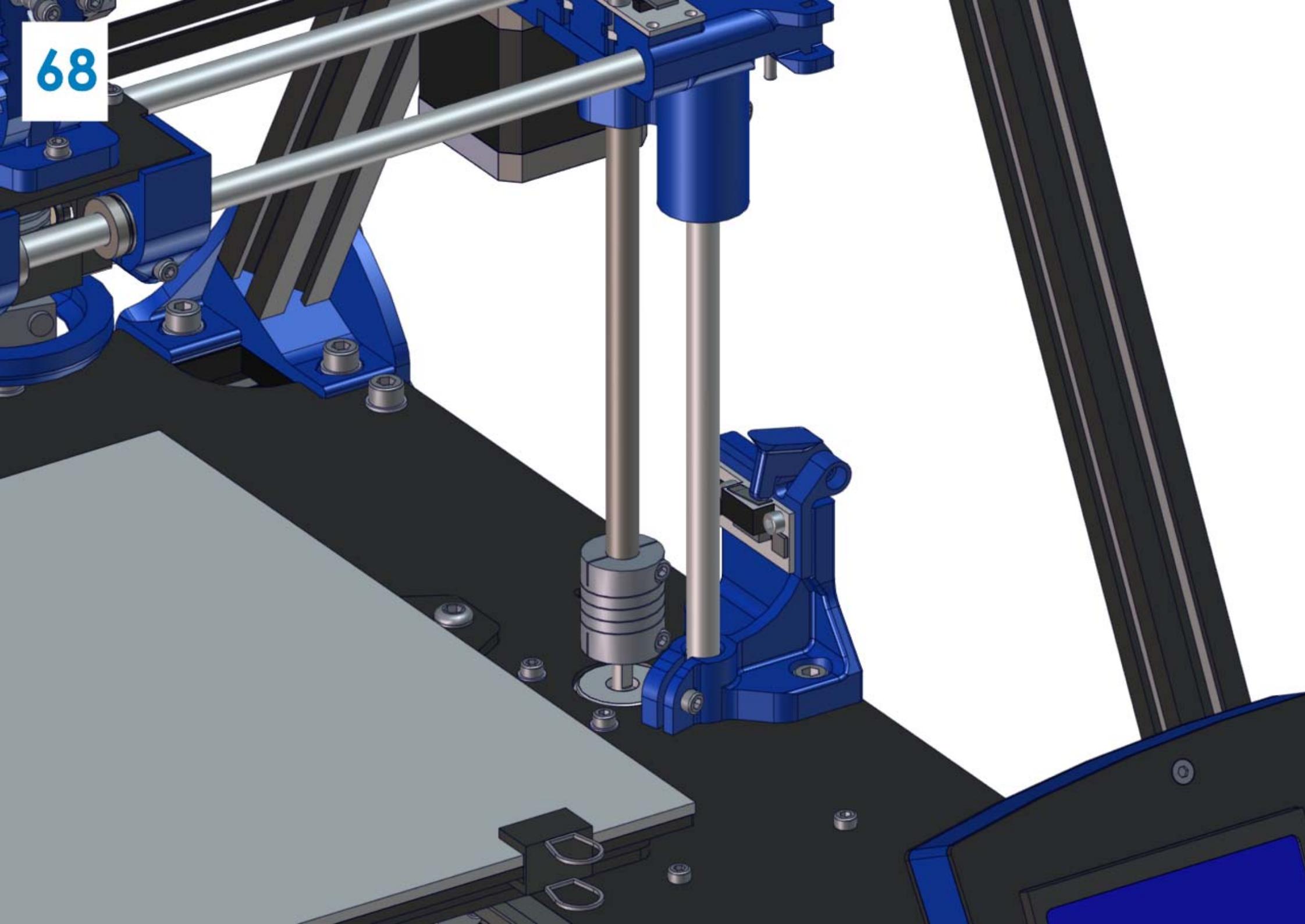


67

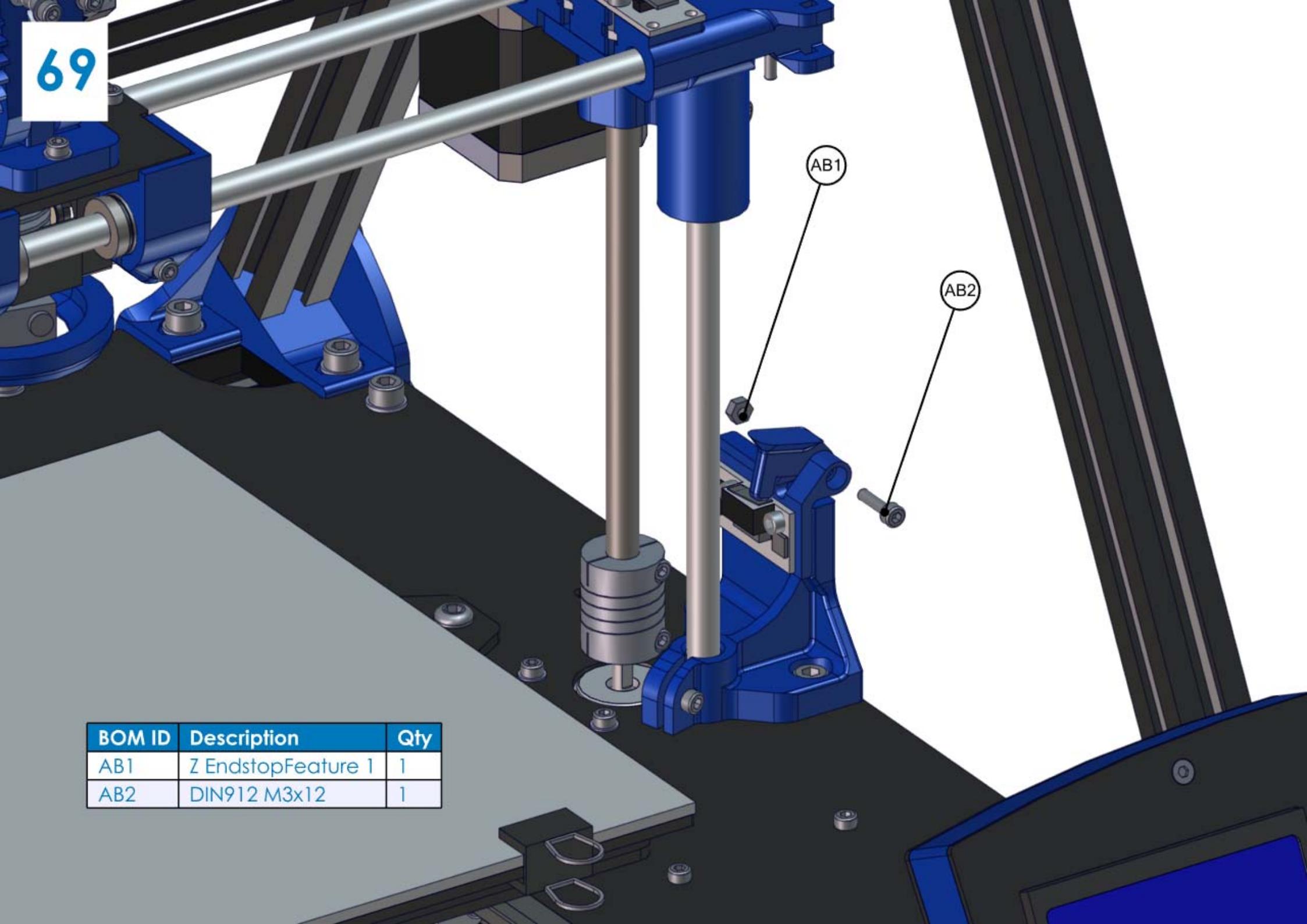


BOM ID	Description	Qty
AA1	Z EndstopFeature 2	1

68

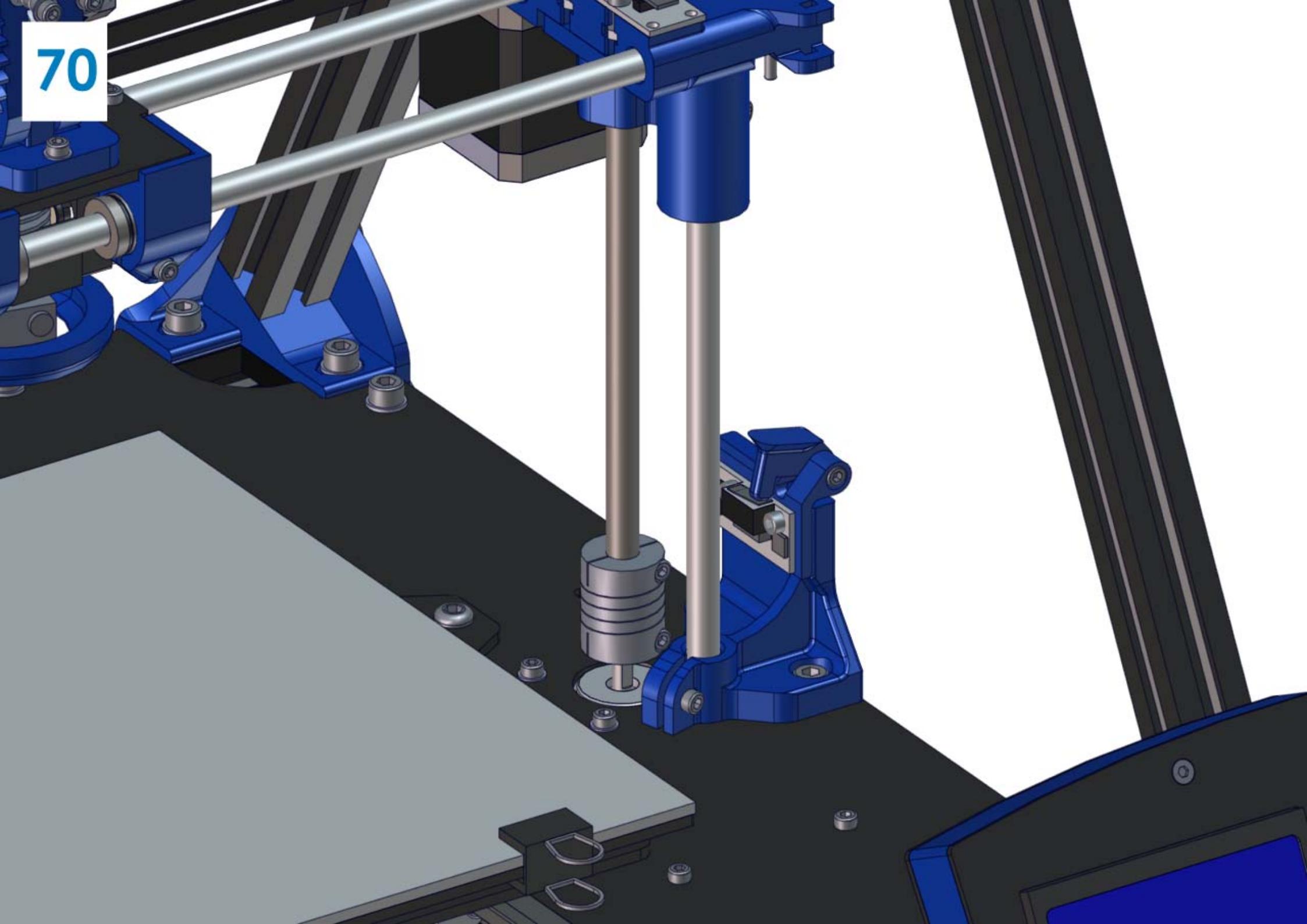


69

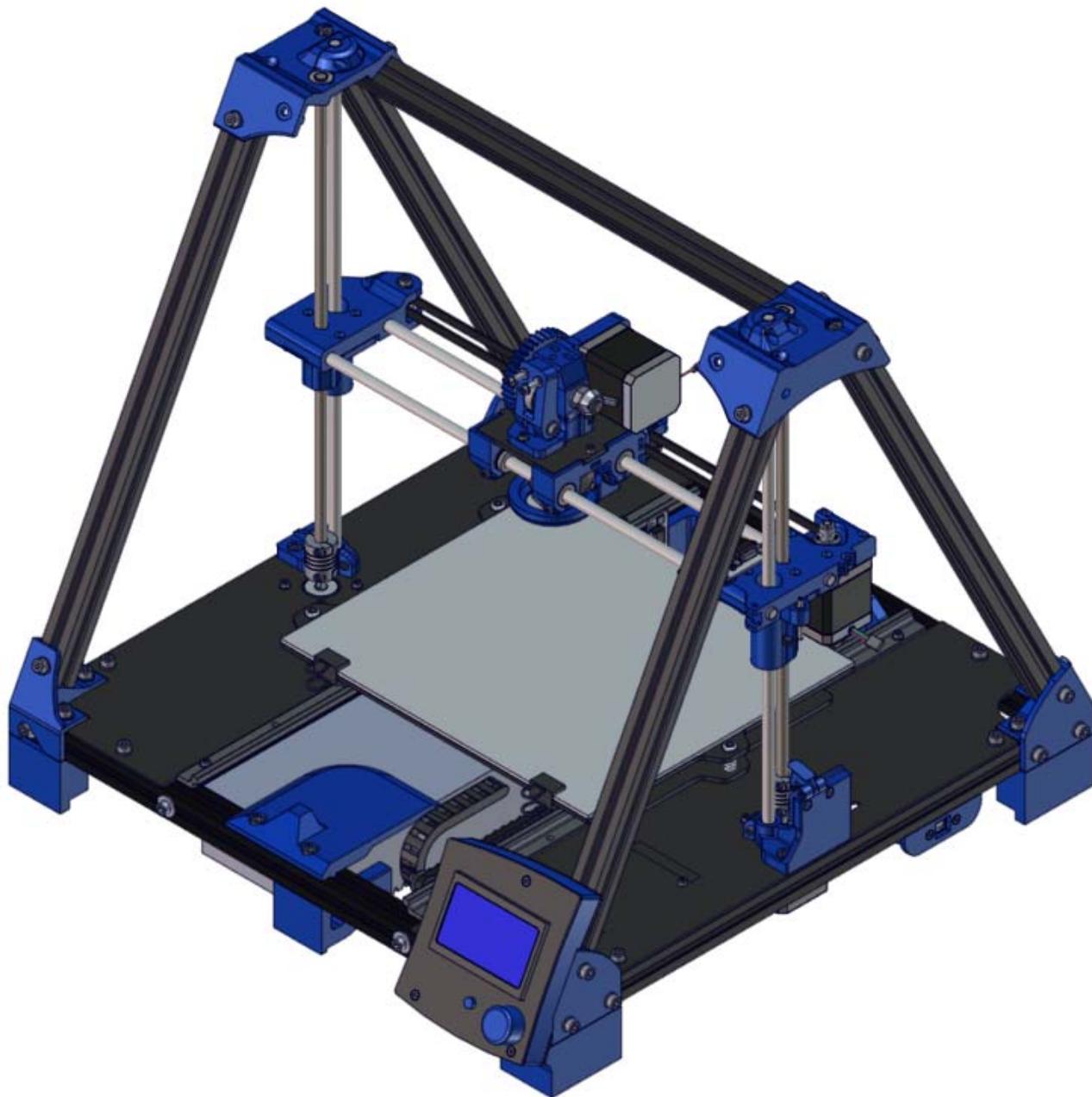


BOM ID	Description	Qty
AB1	Z EndstopFeature 1	1
AB2	DIN912 M3x12	1

70



71



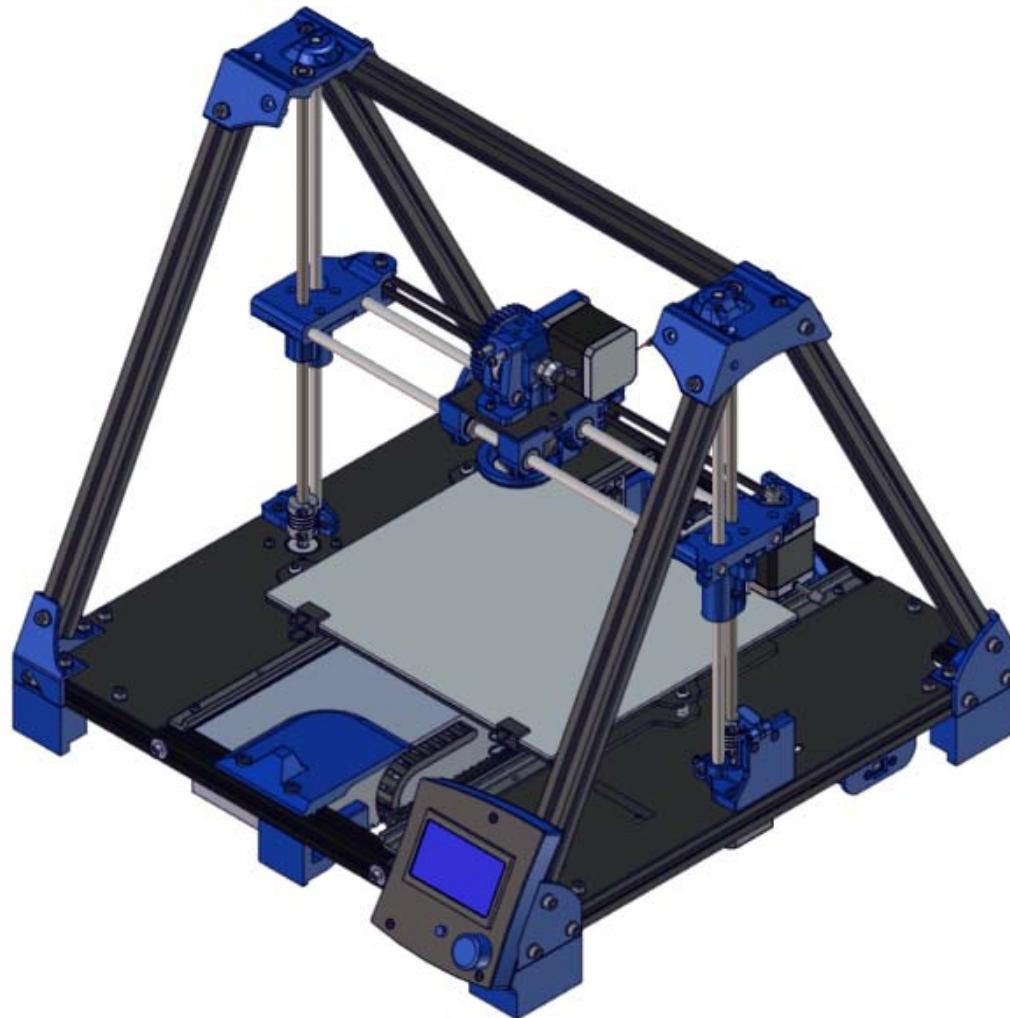


Para poder alojar la gran jeringa del Paste extruder será necesario subir el eje Z mediante la propia impresora.

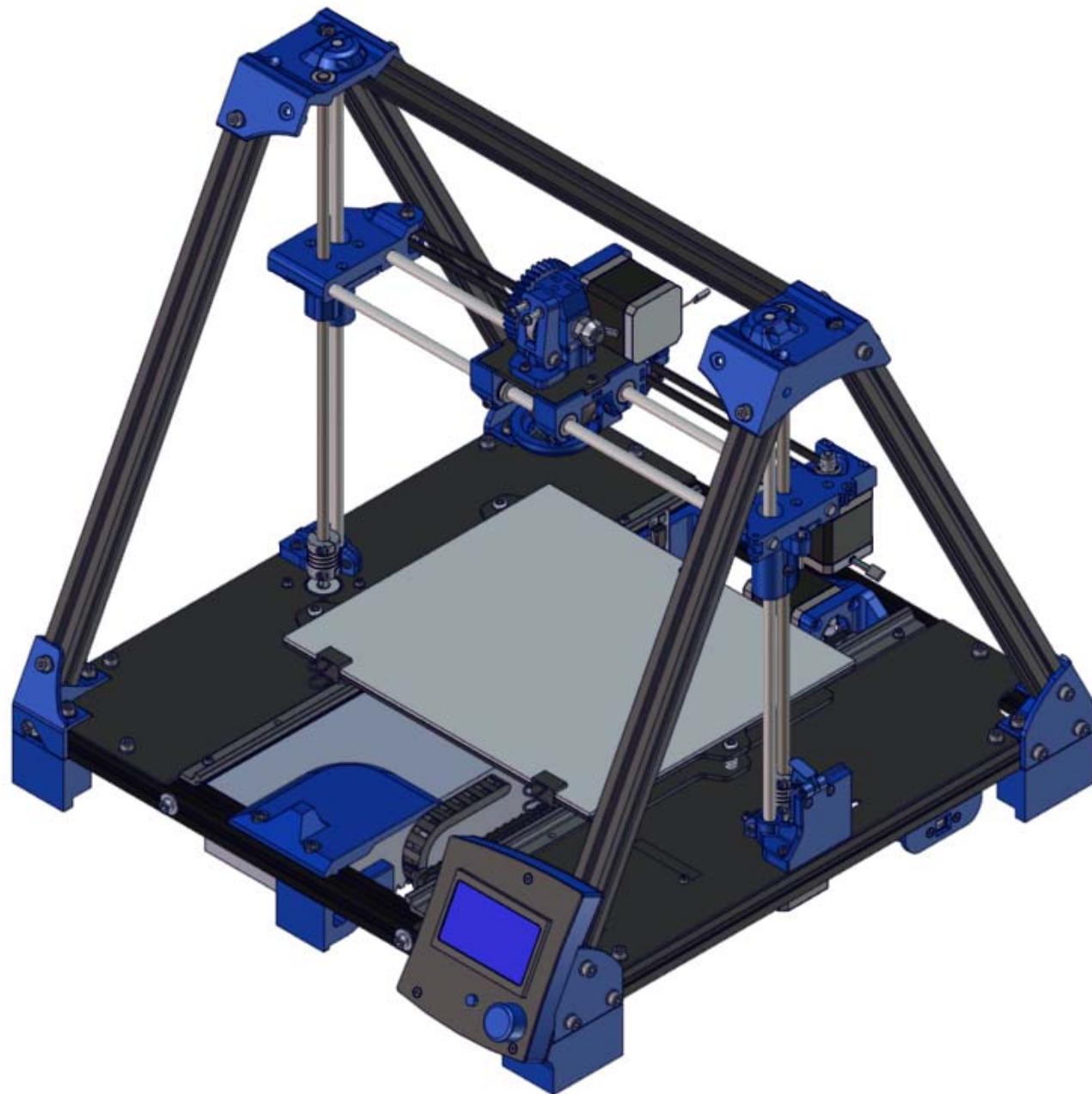
Para ello conectar la impresora y entrar en el menú:

Prepare > Auto home y después:

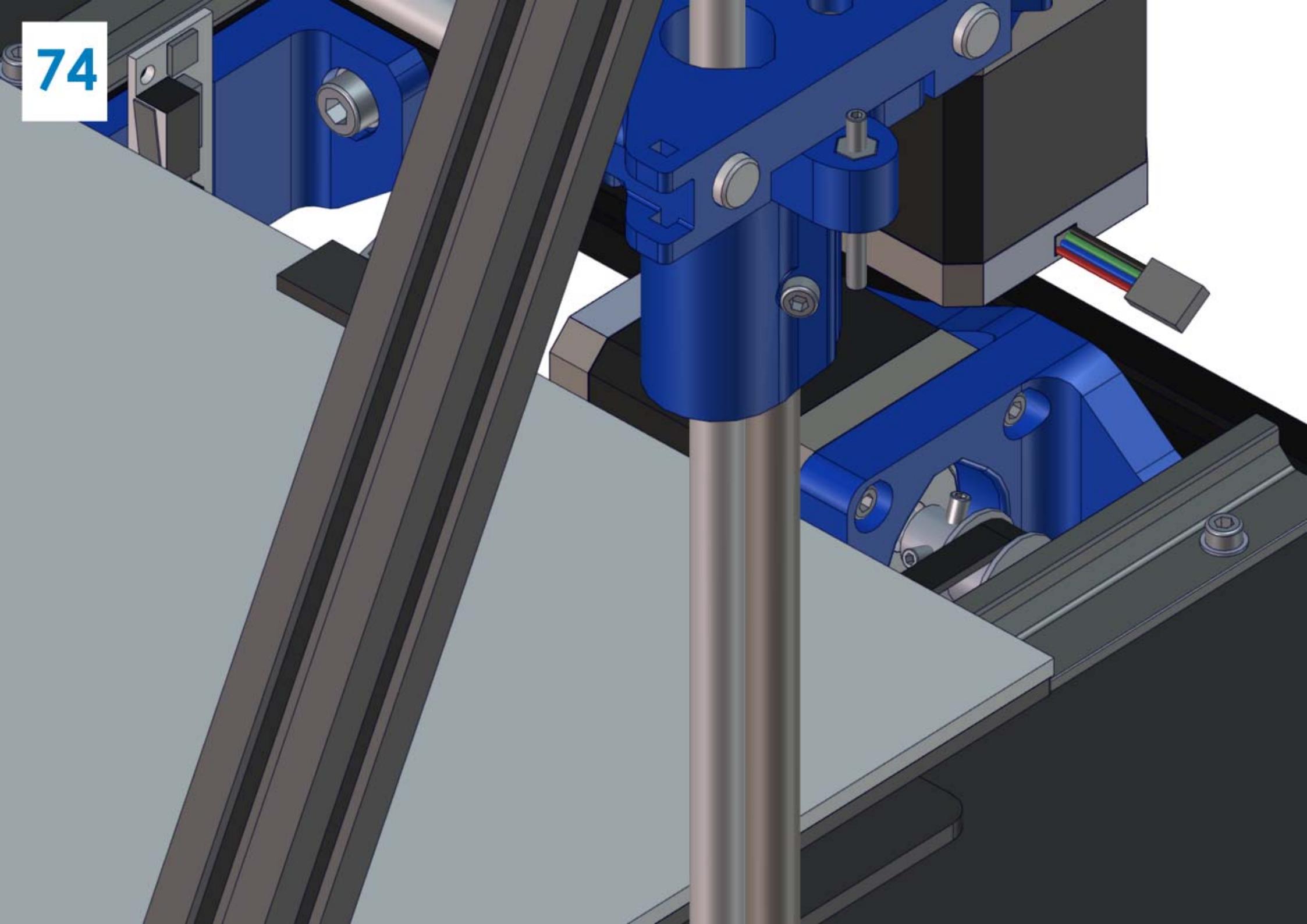
Prepare > Move Axis > Move 1mm > Move Z e introducir Z: +140.00



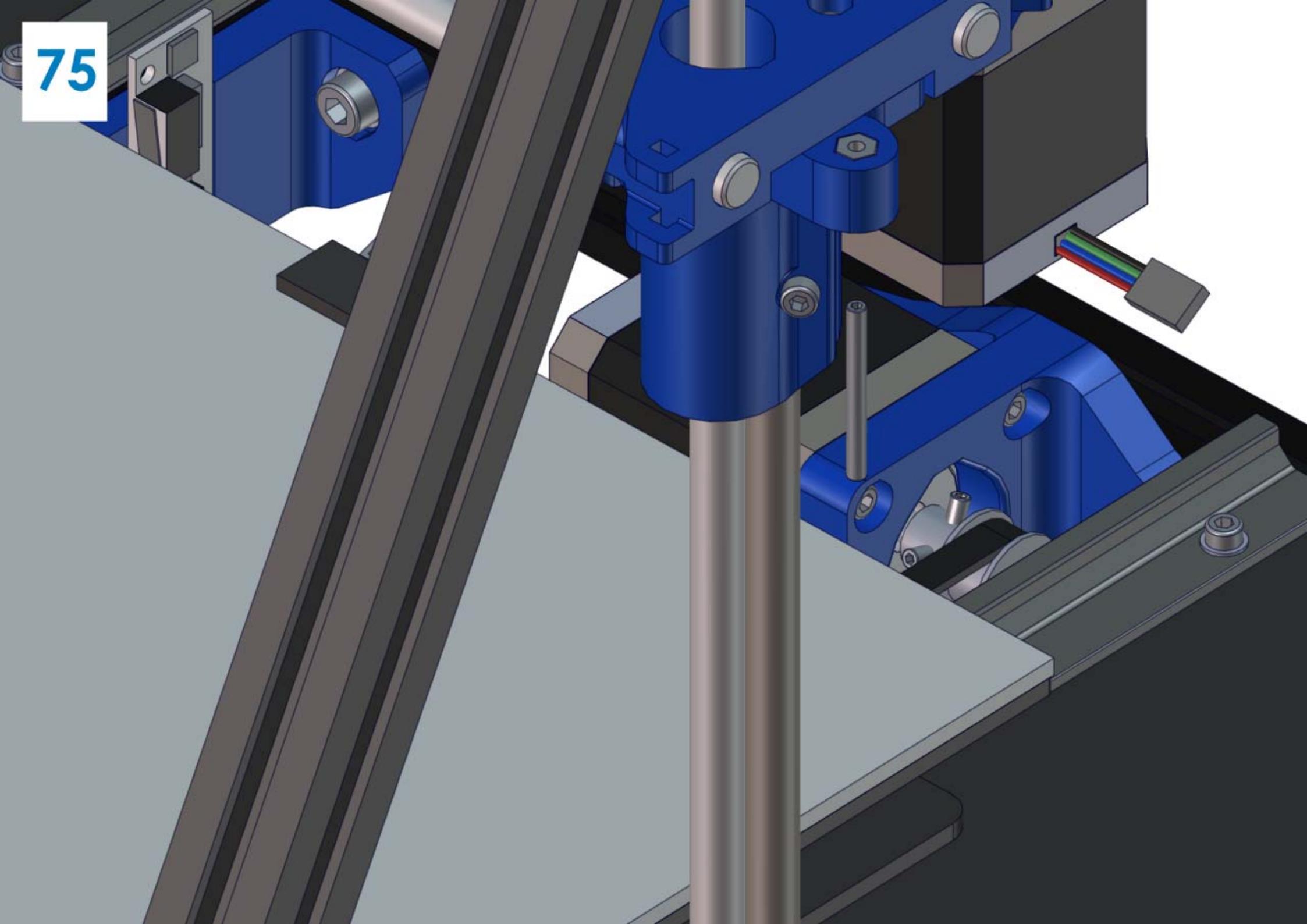
73



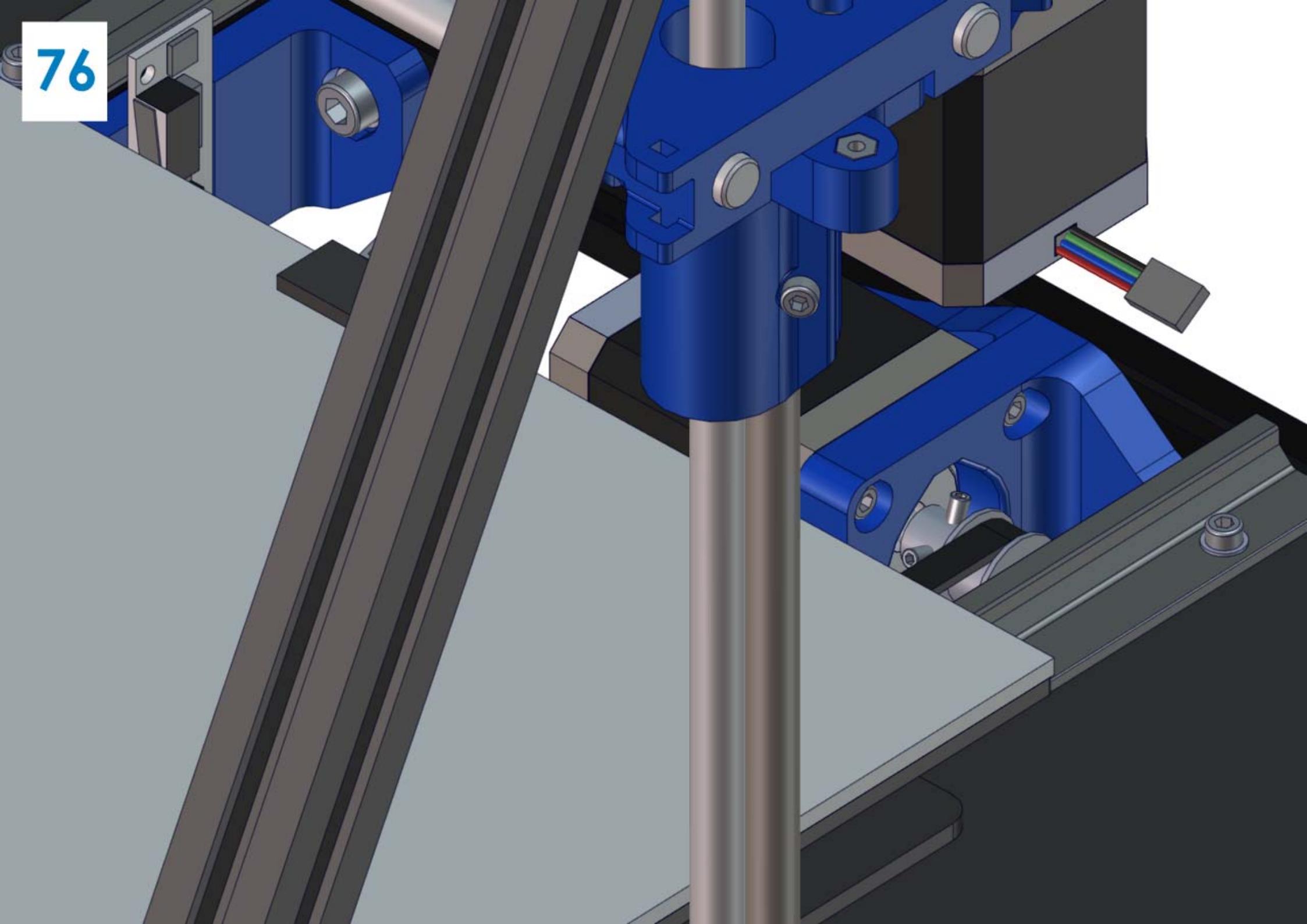
74

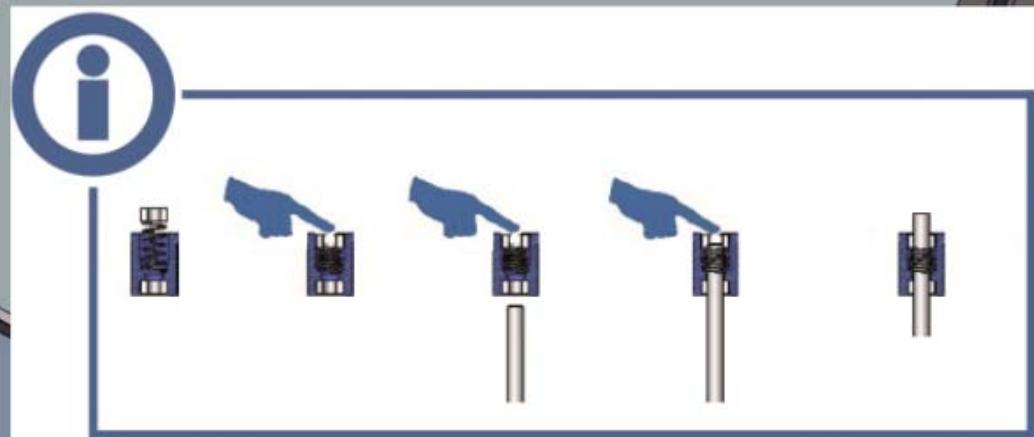


75



76

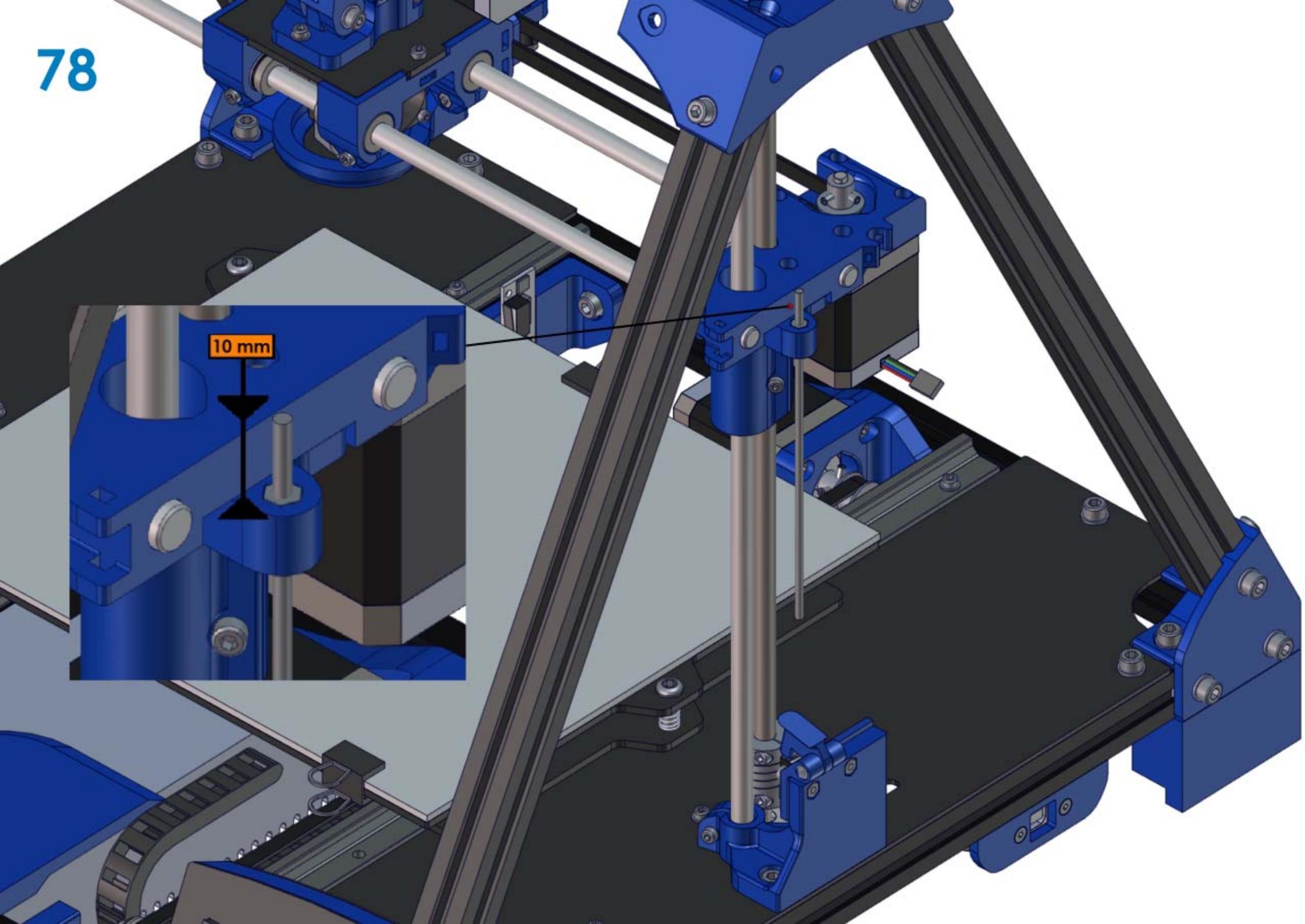




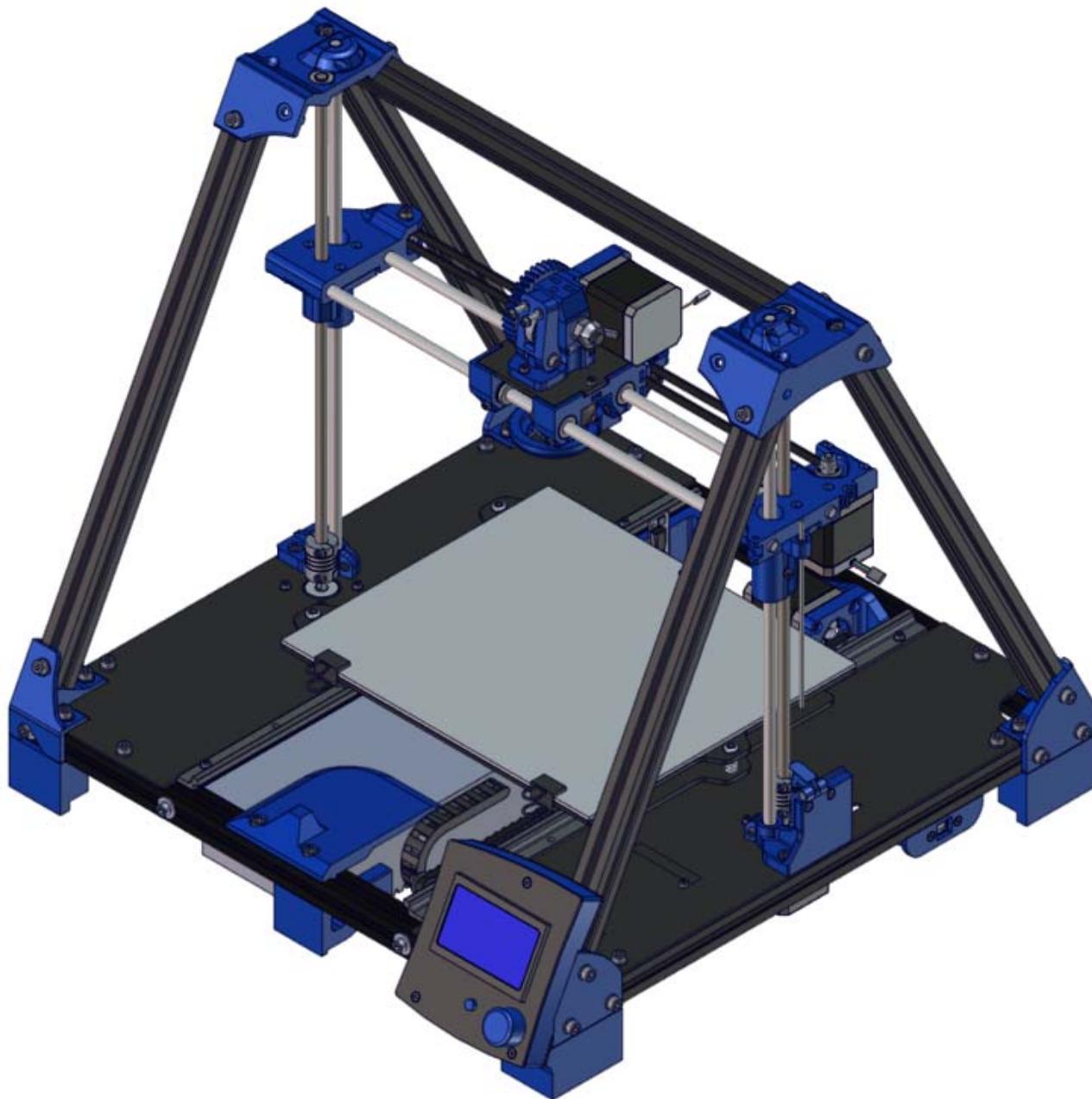
AC1

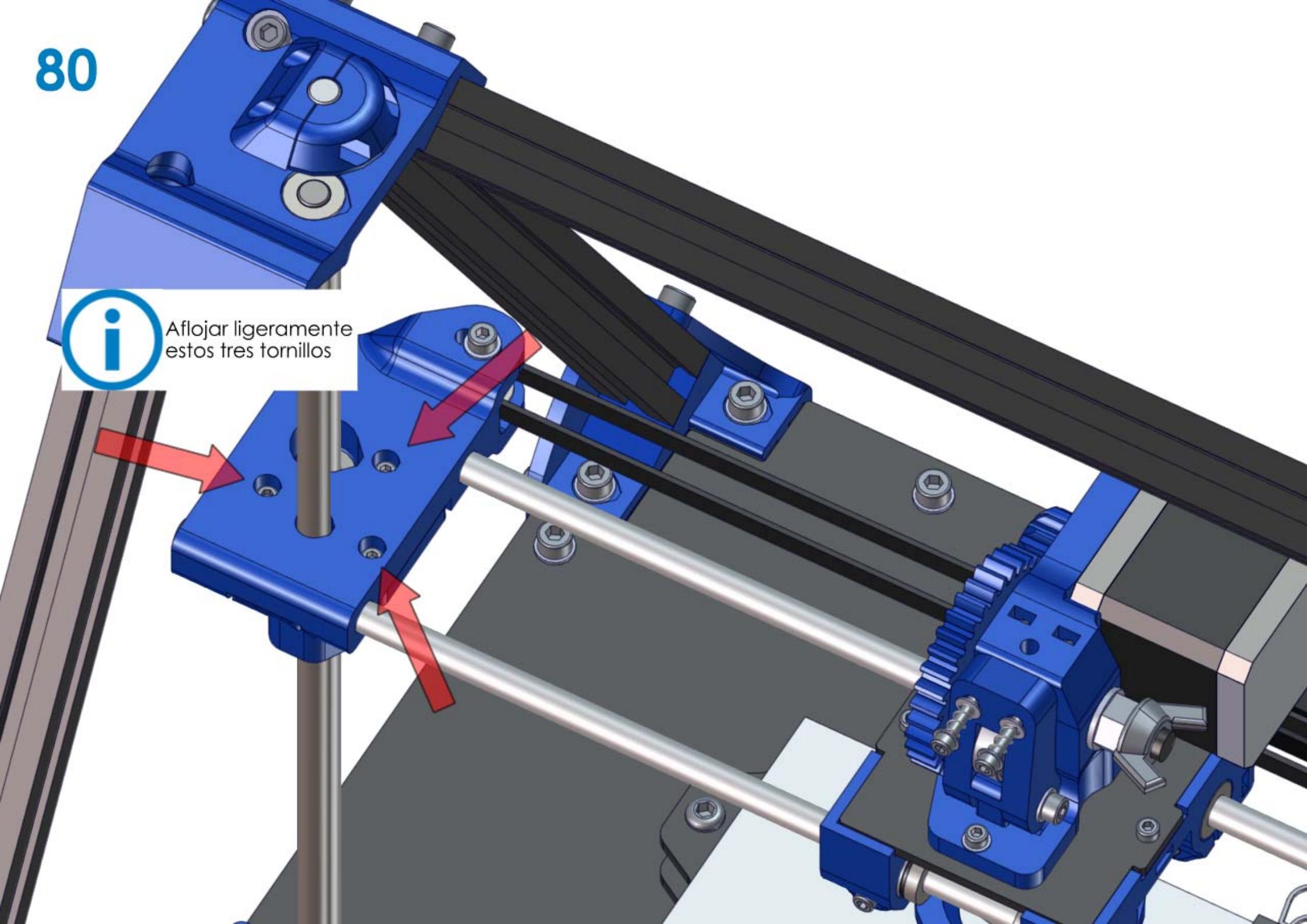
BOM ID	Description	Qty
AC1	Varilla Roscada M3x140	1

78



79

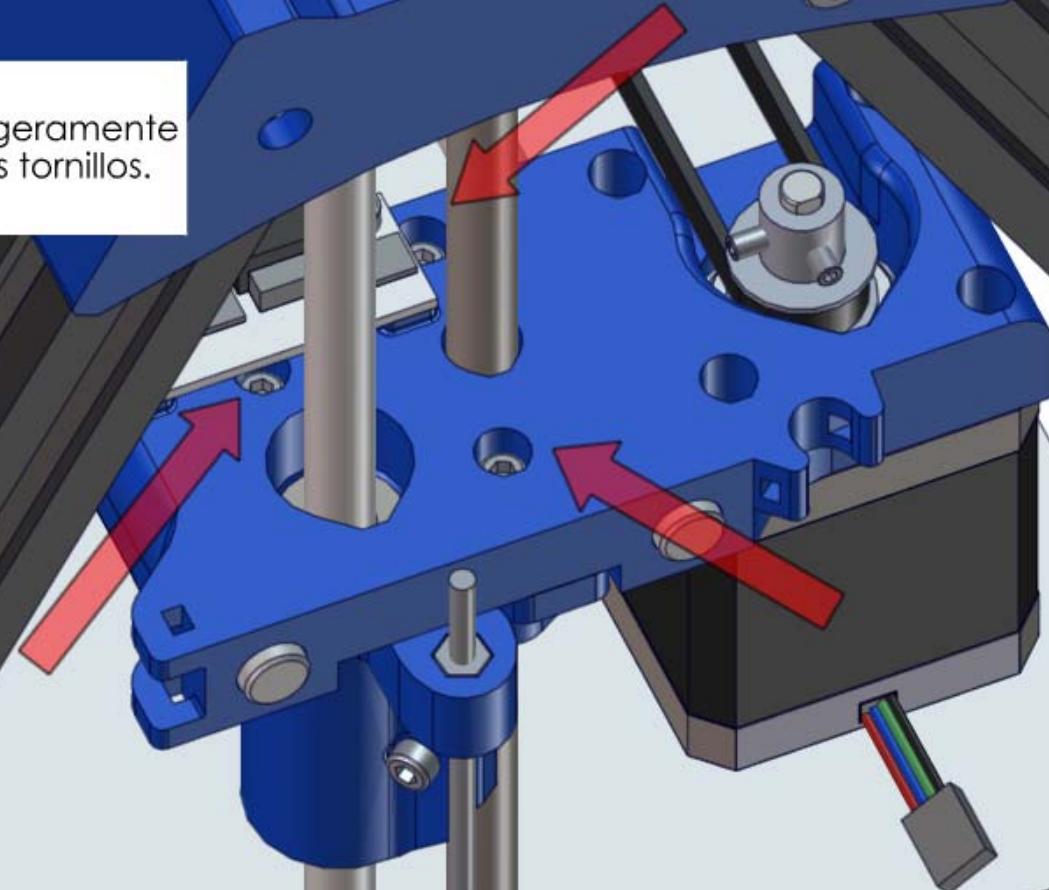


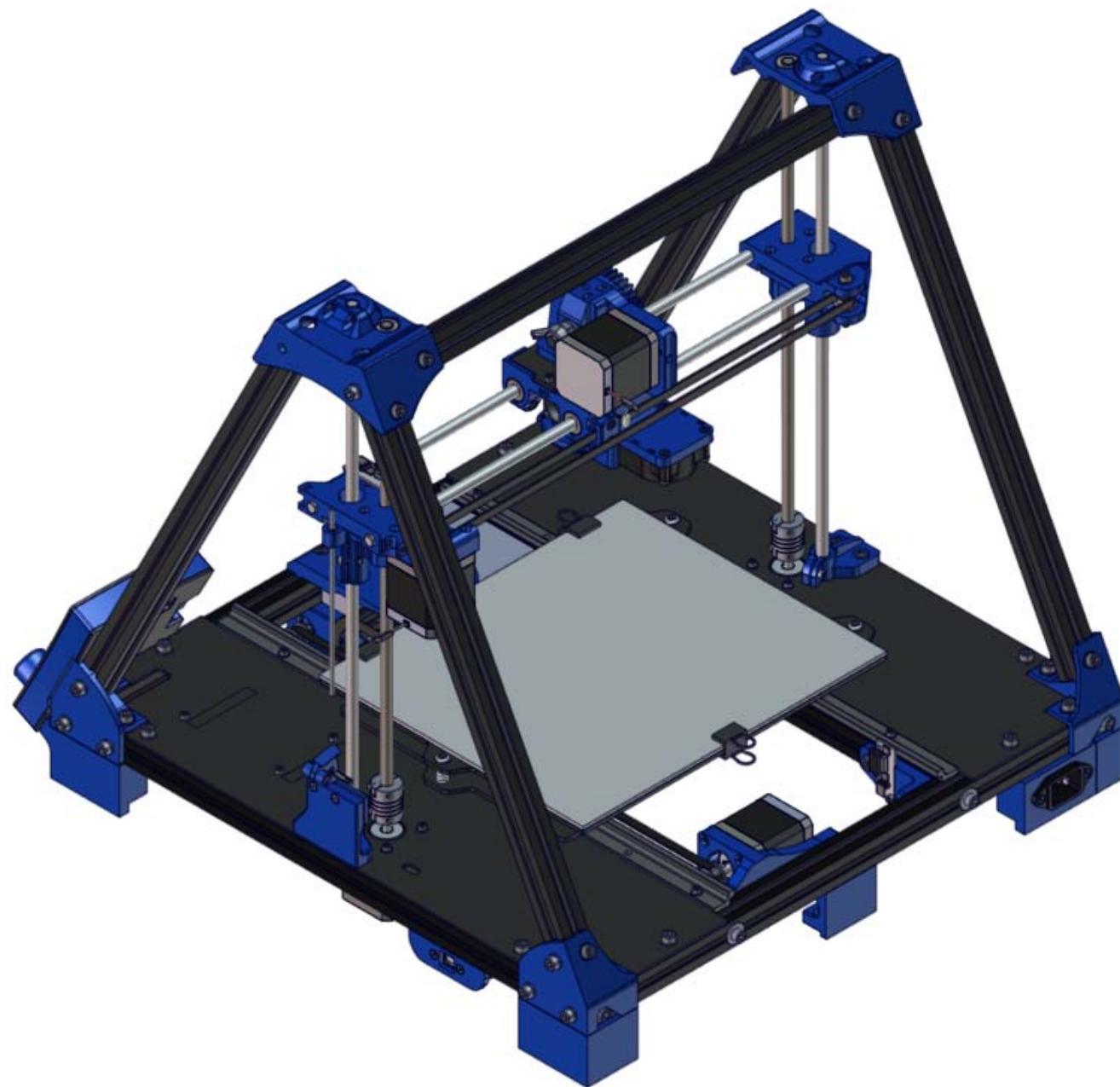


Aflojar ligeramente  
estos tres tornillos

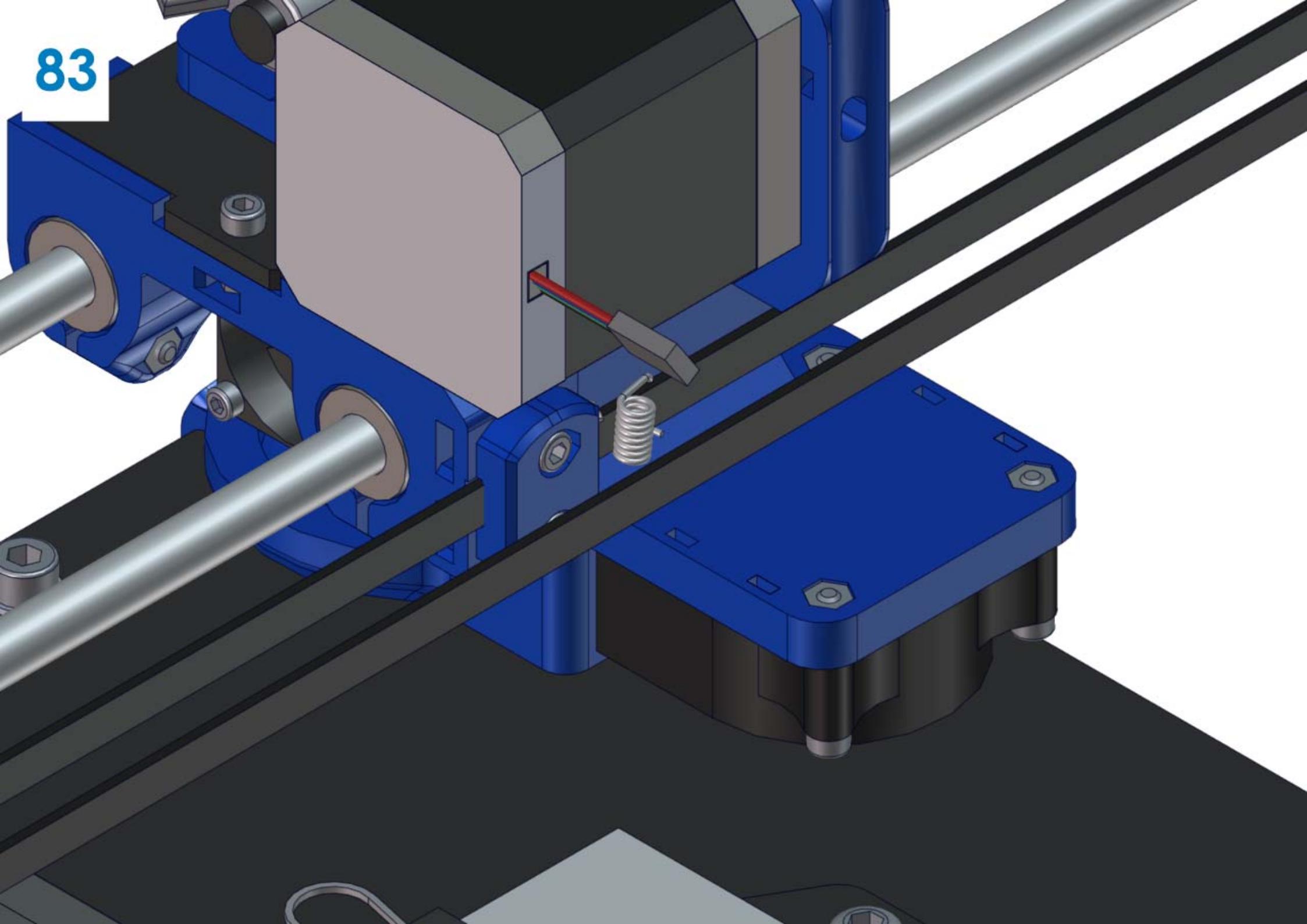


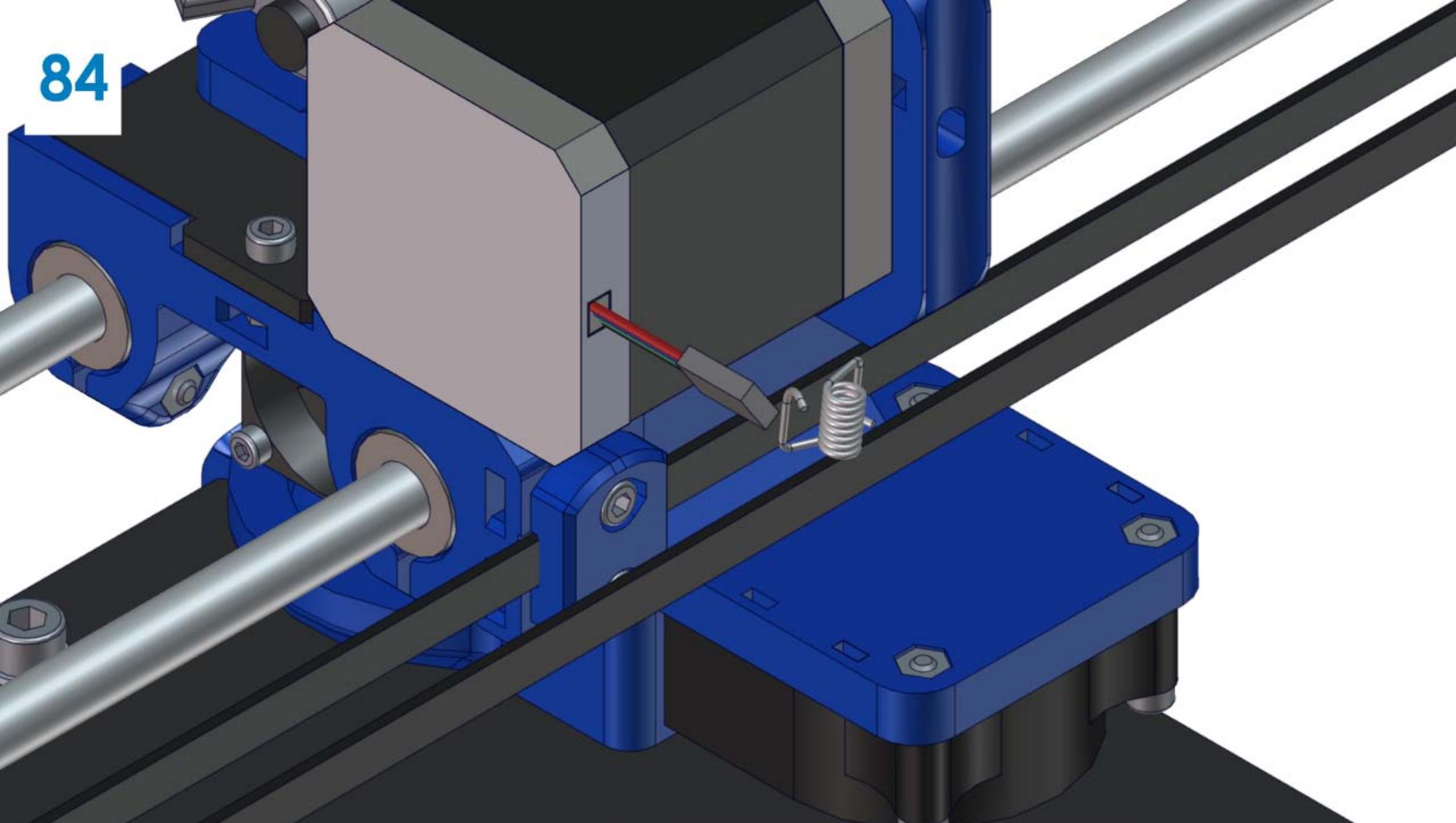
Aflojar ligeramente  
estos tres tornillos.





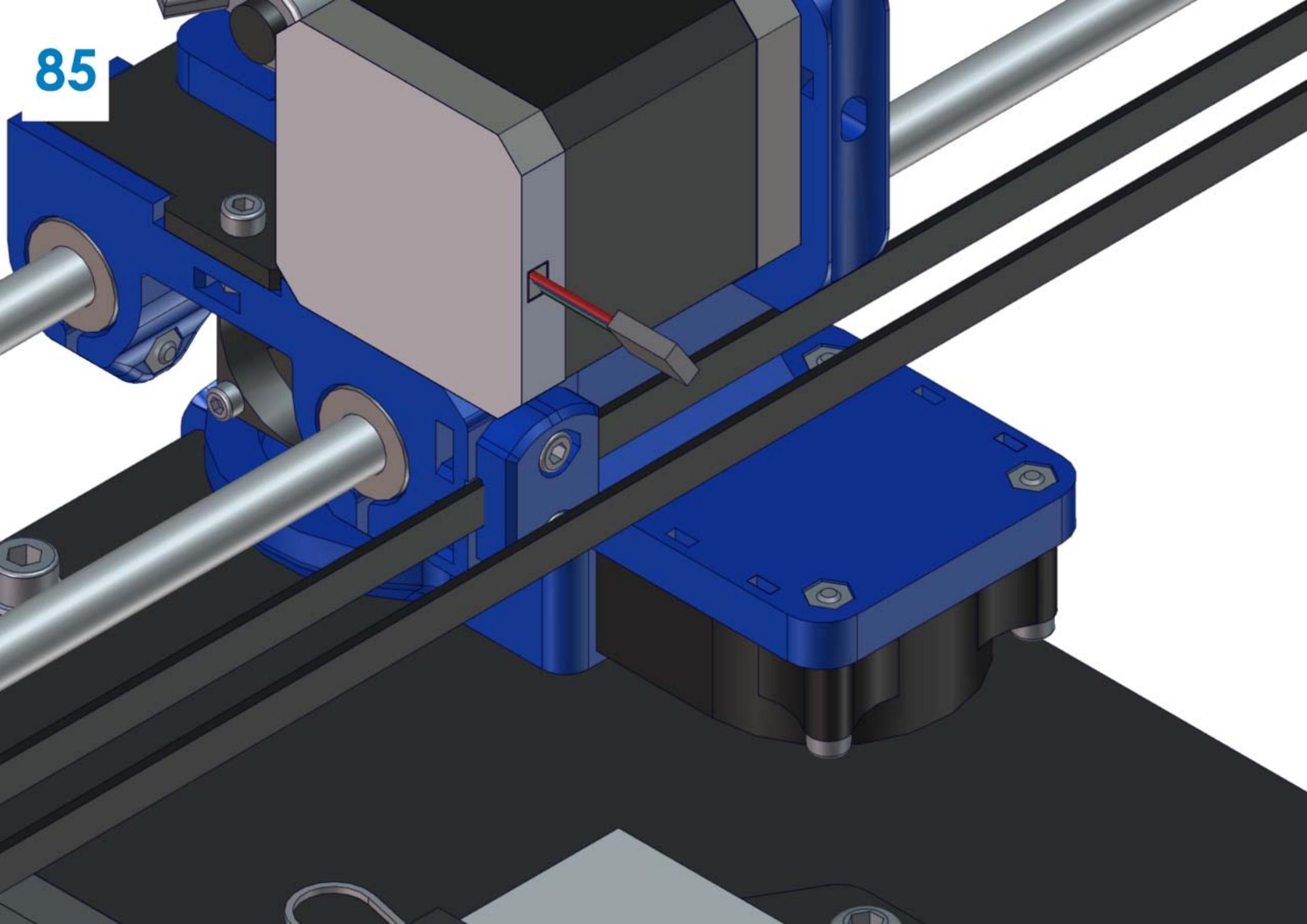
83

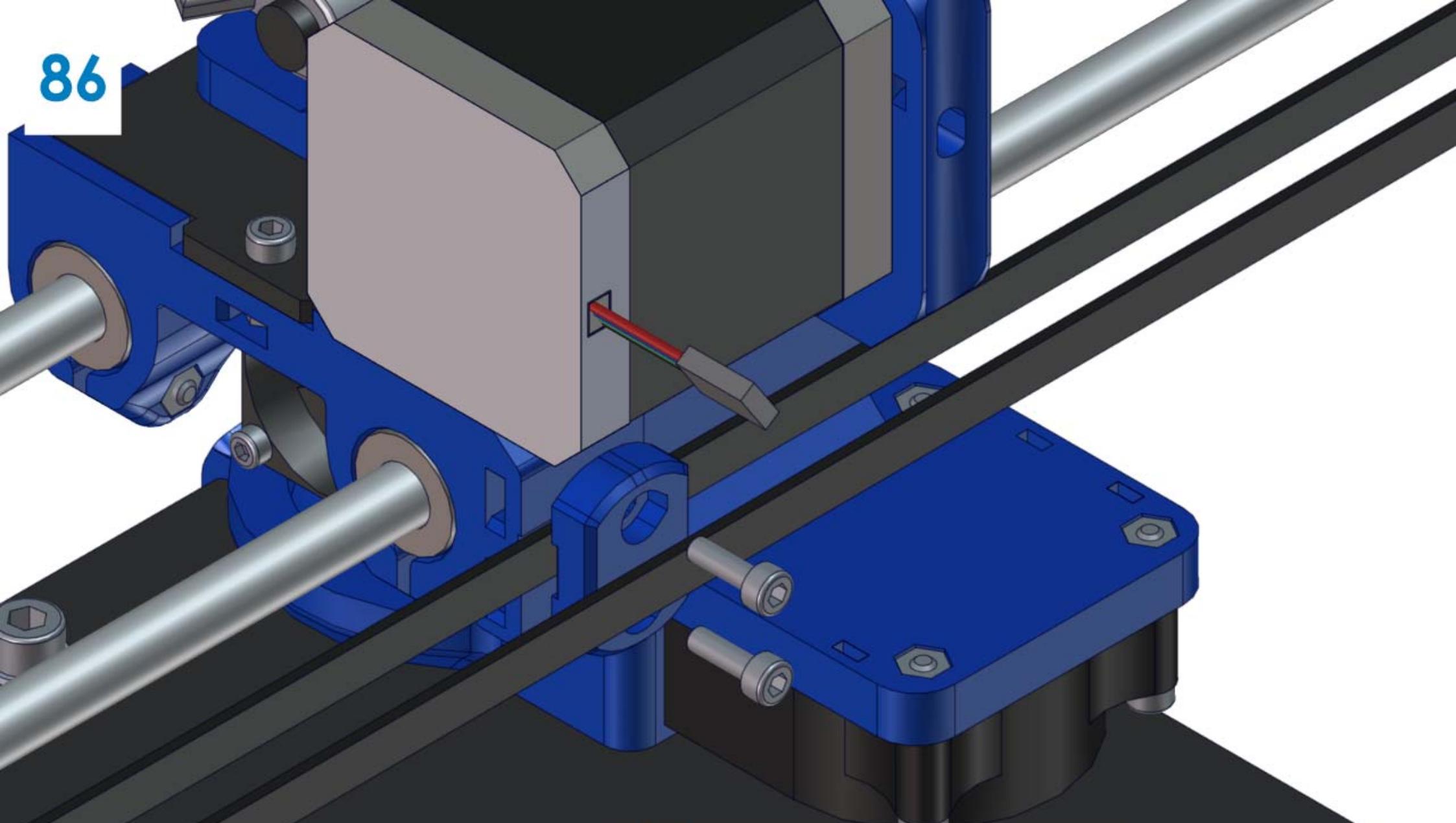




Este muelle tensor será necesario más adelante en el cambiar del carro del extrusor por el Paste extruder.

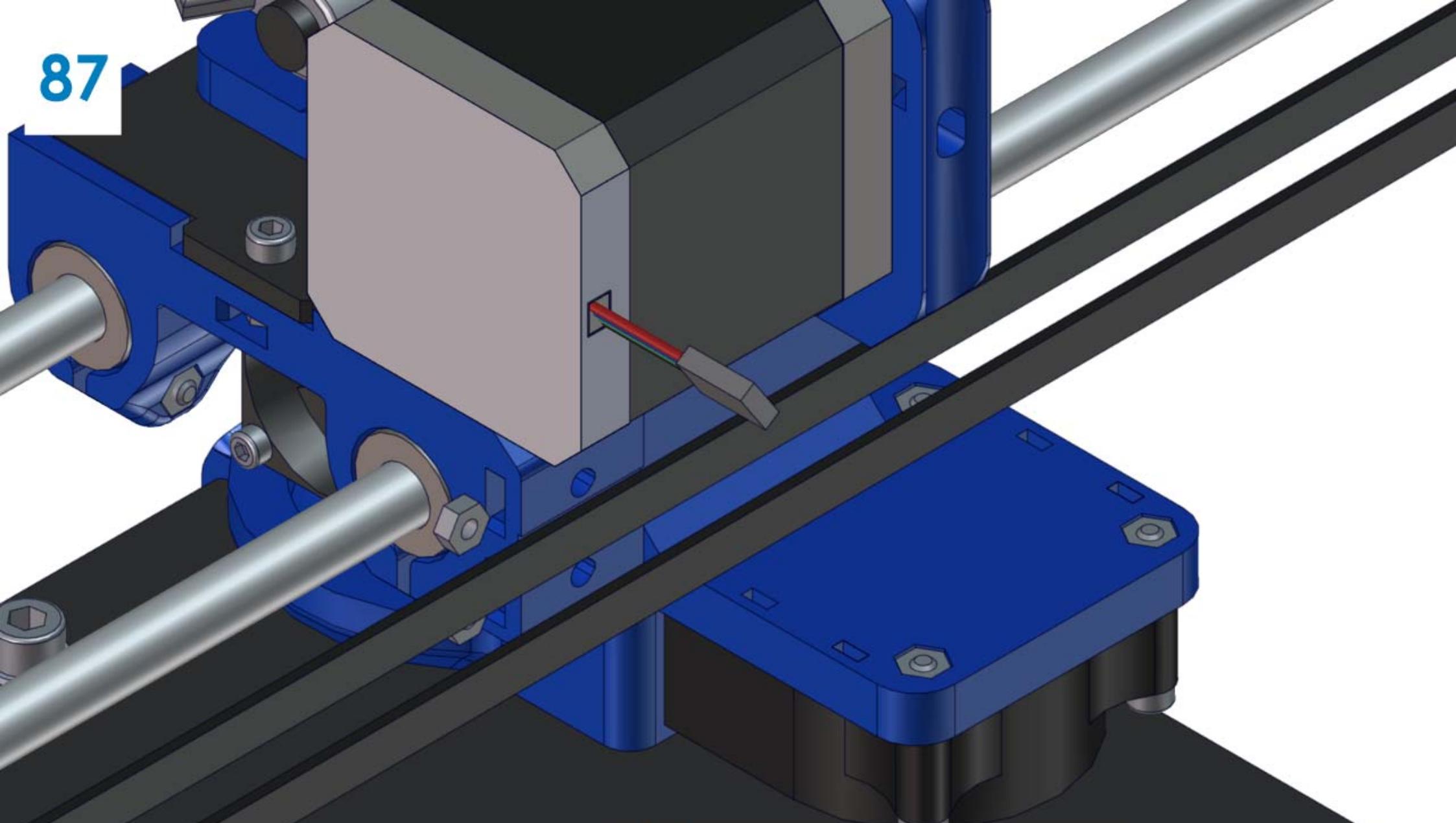
85





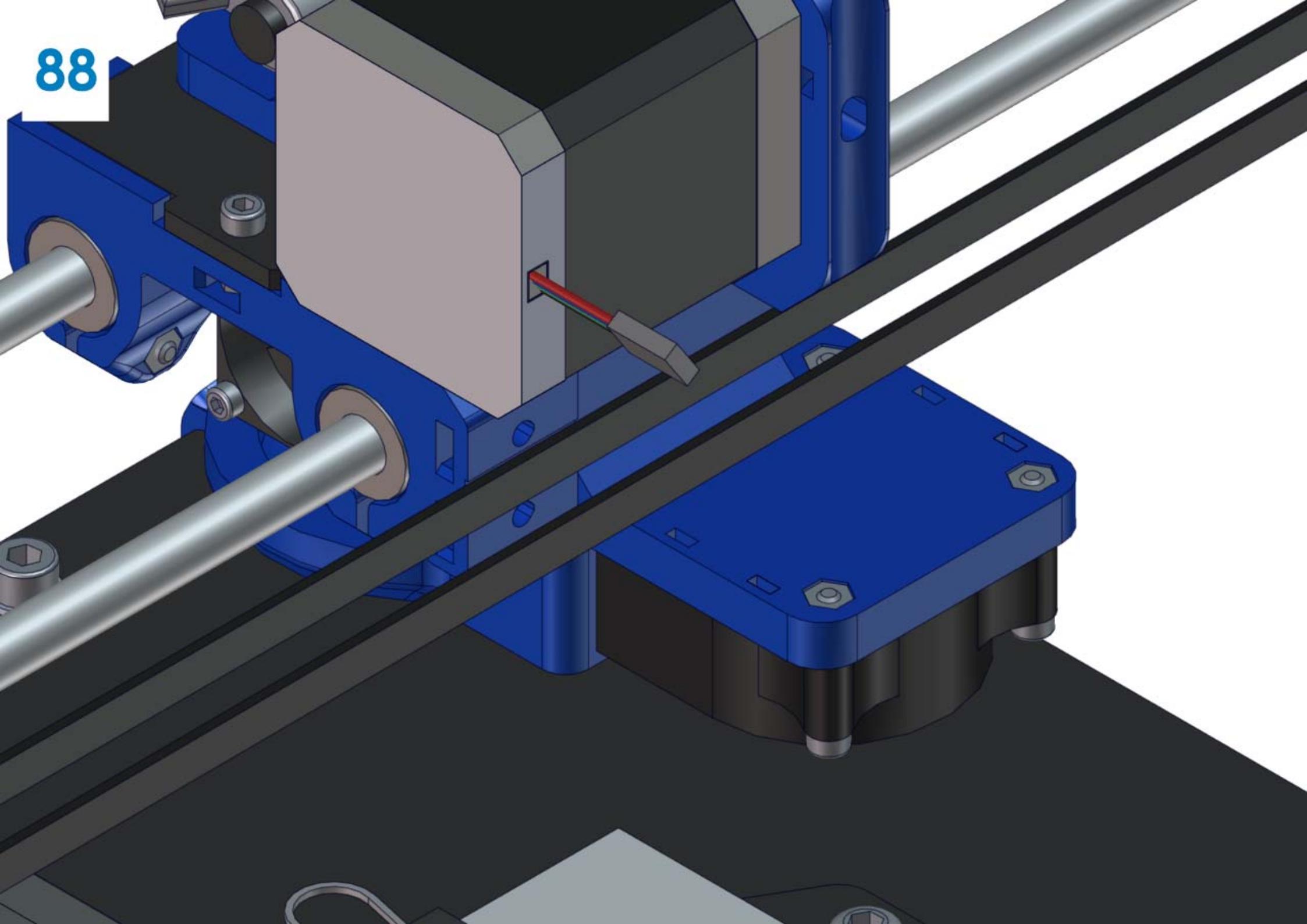
Estos dos tornillos serán necesarios  
más adelante al cambiar el carro del  
extrusor por el paste extruder.

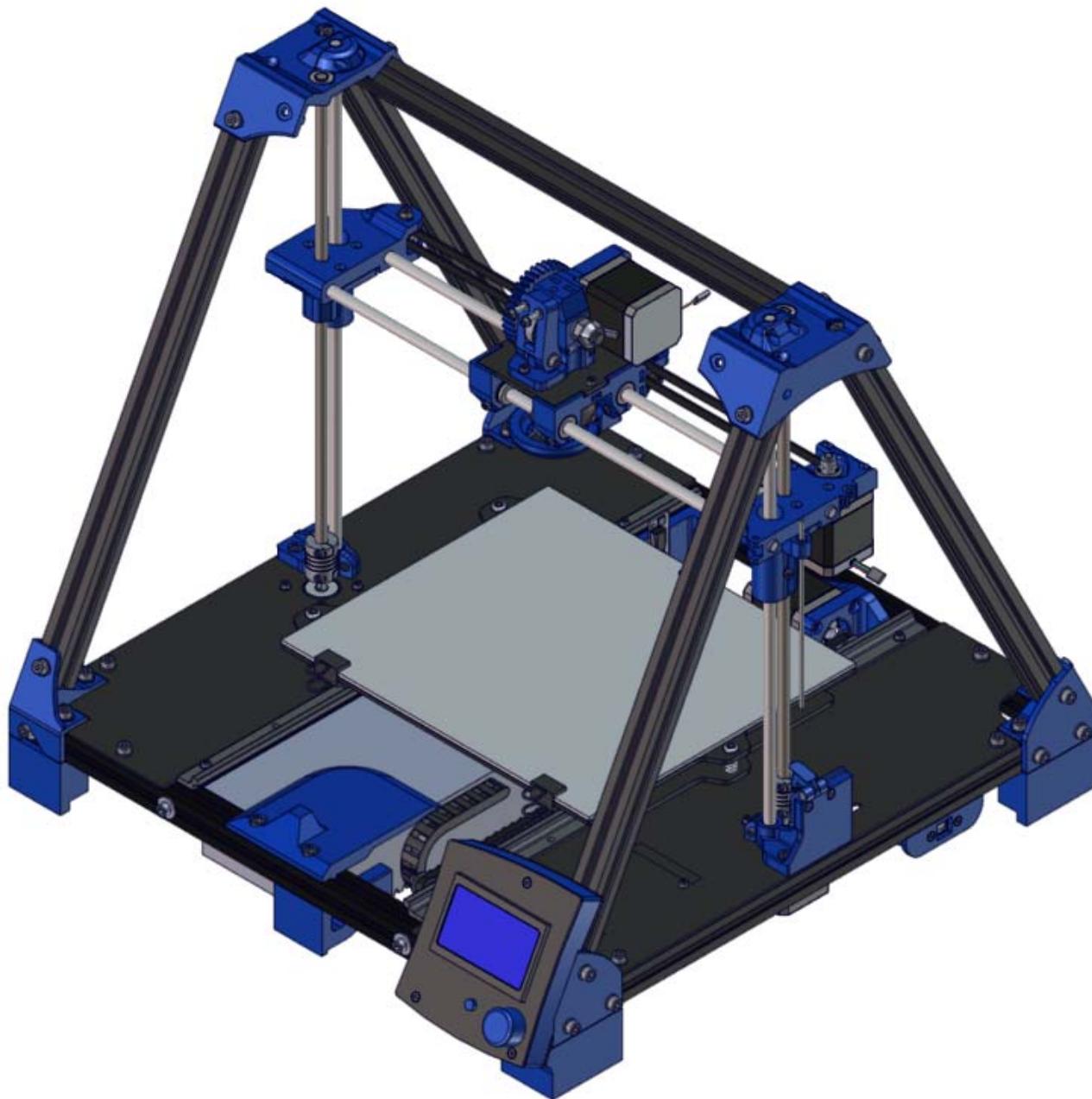
87



Estas dos tuercas serán necesarias  
más adelante al cambiar el carro del  
extrusor por el paste extruder.

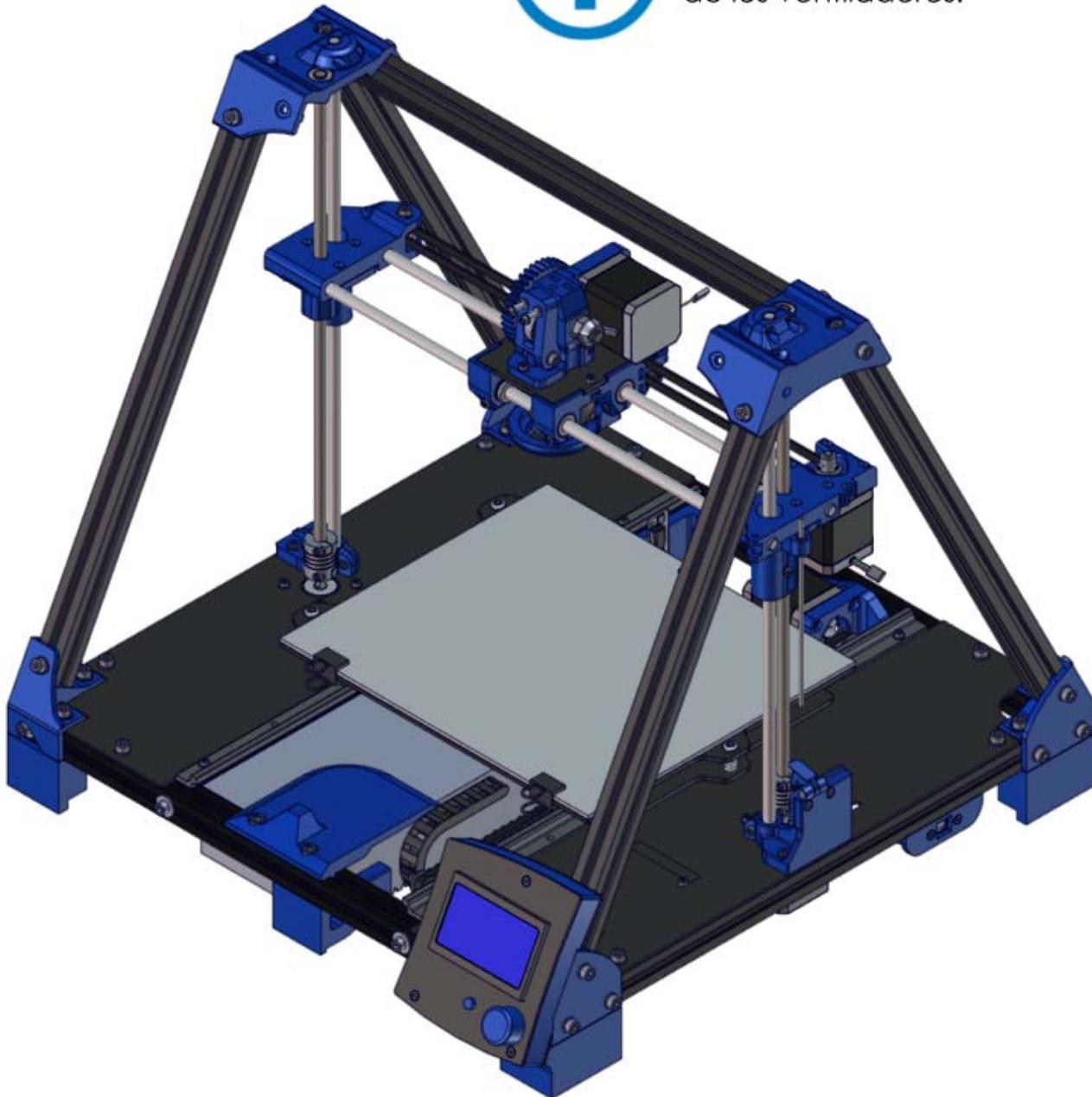
88

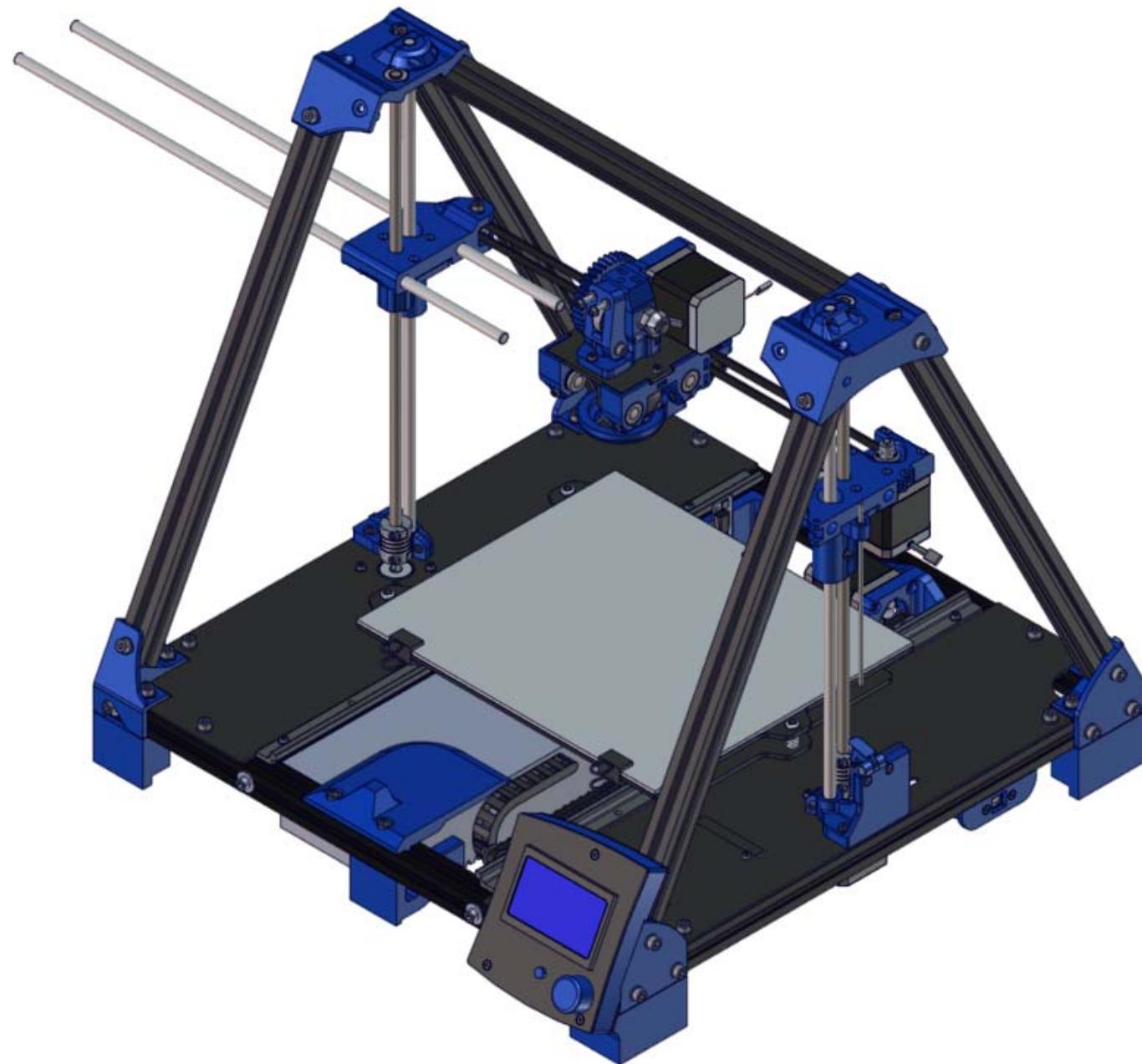


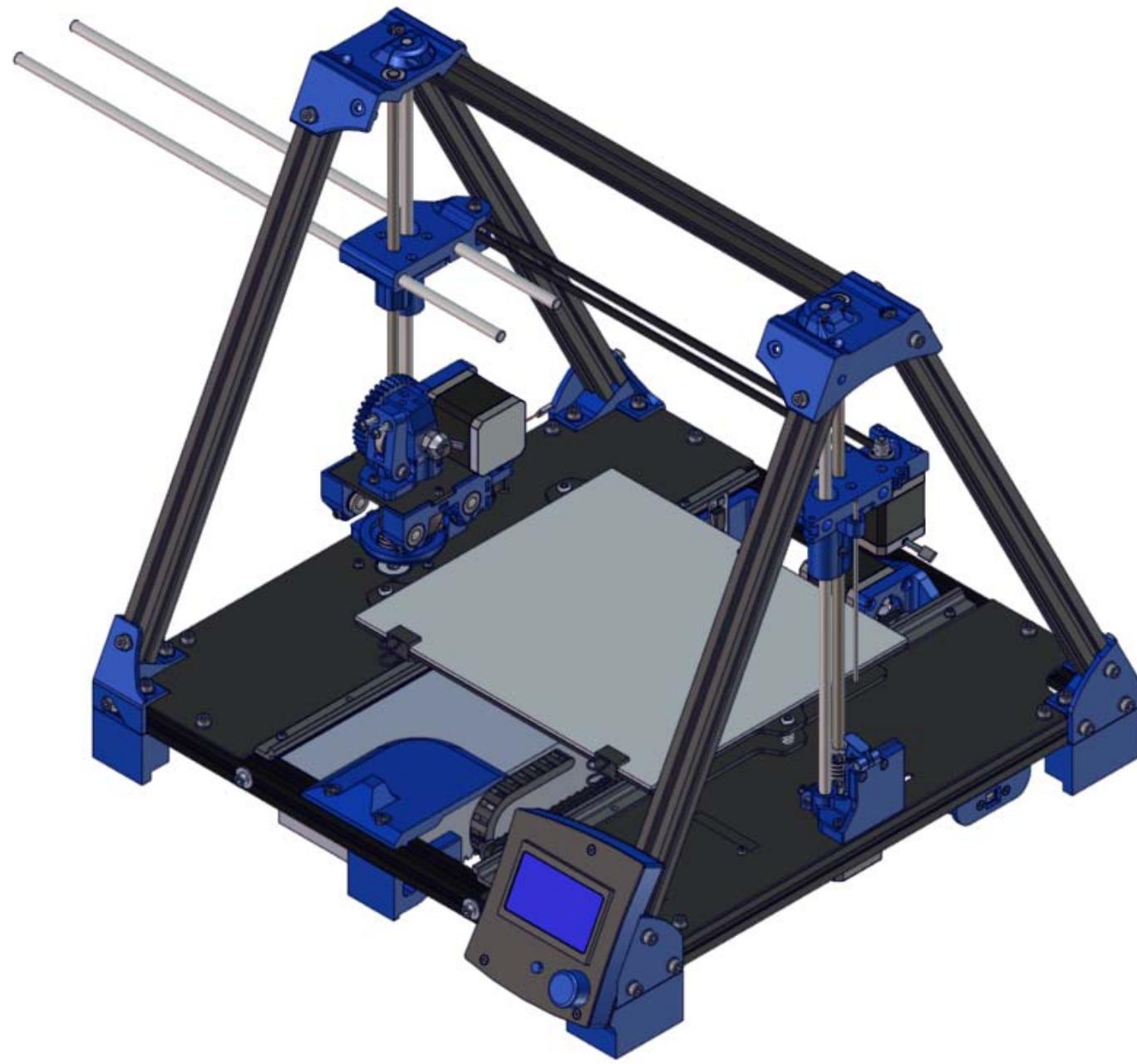




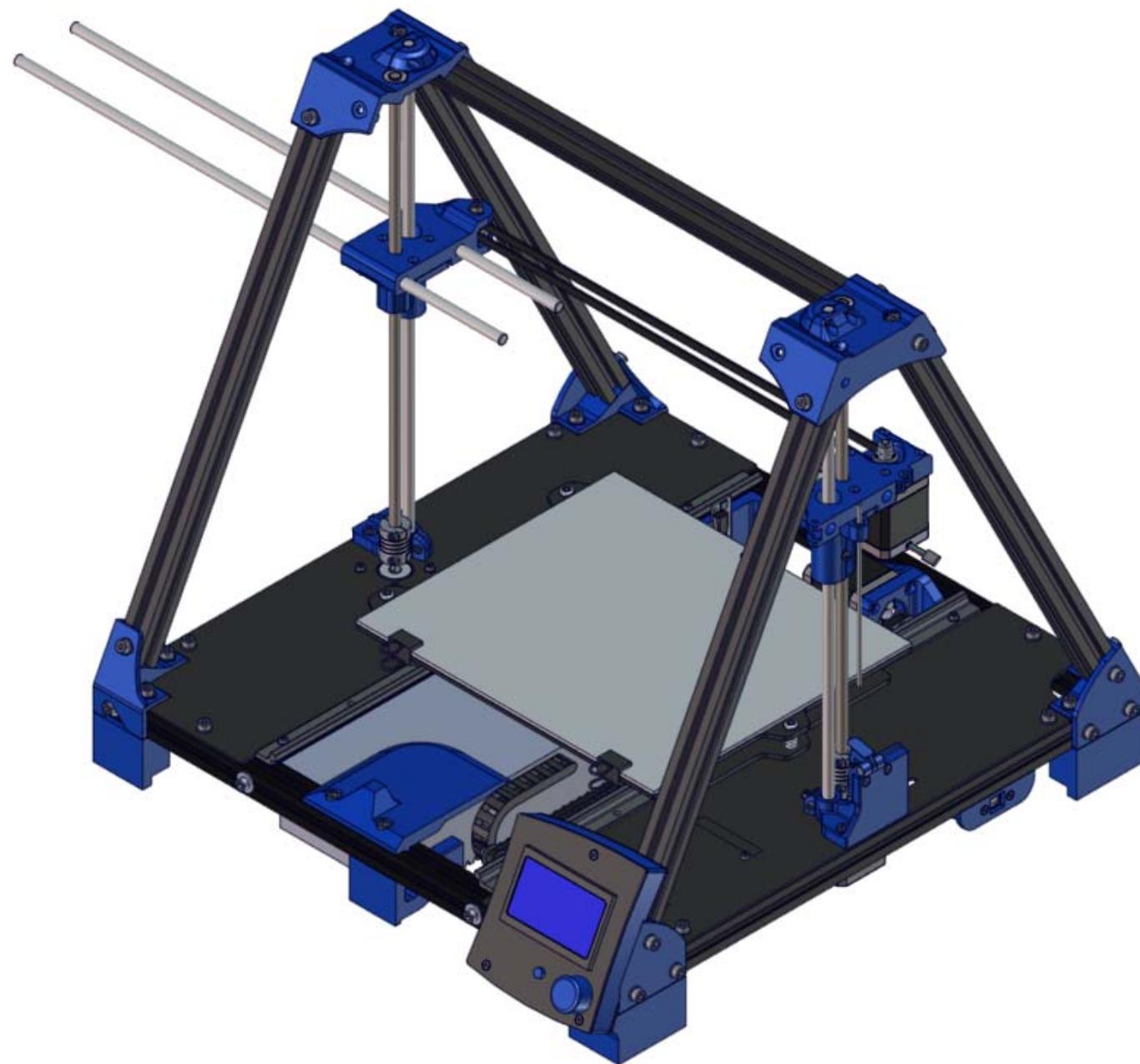
Se procede a desconectar el conector del motor, el del extrusor y los dos conectores de los ventiladores.

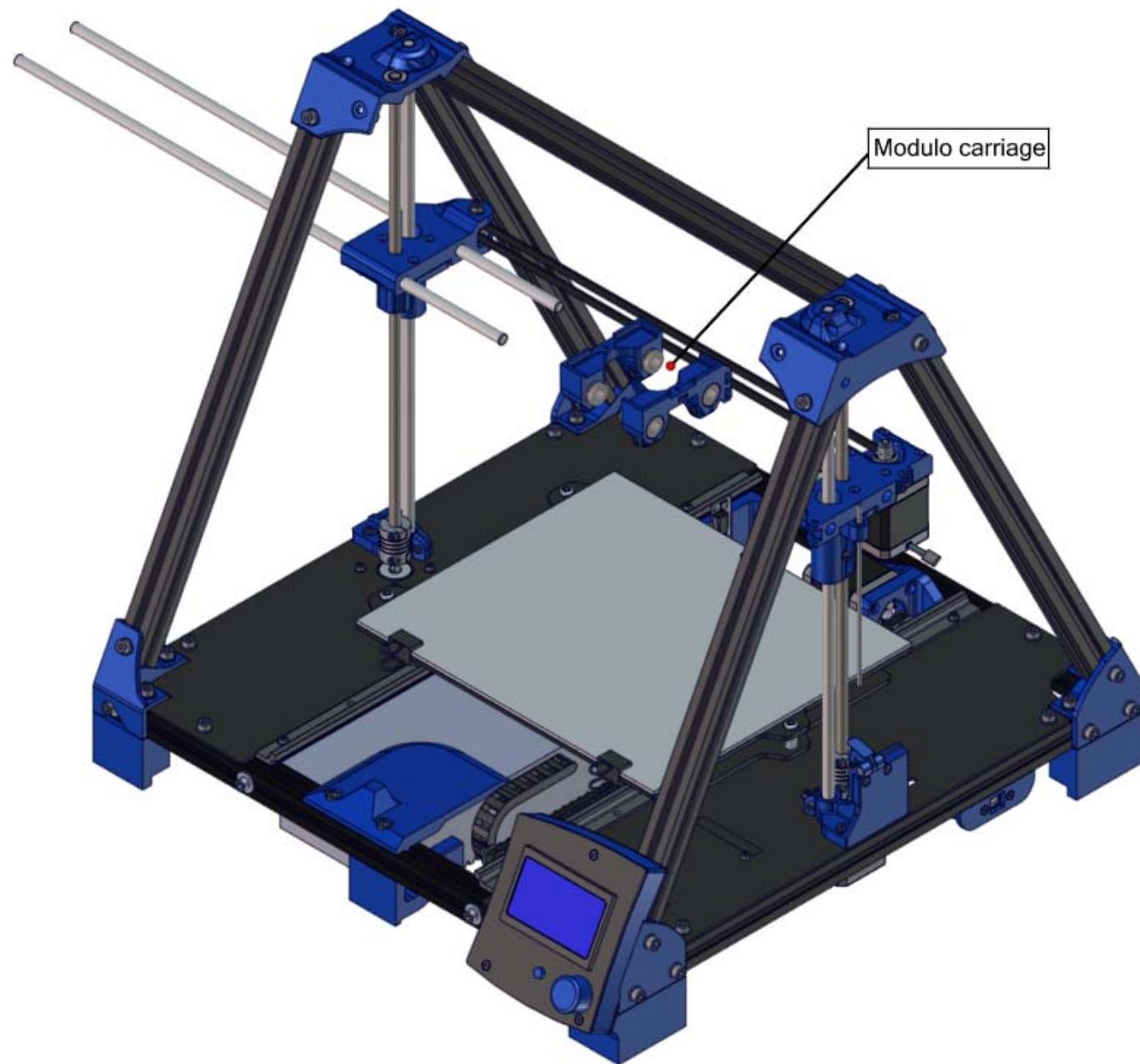




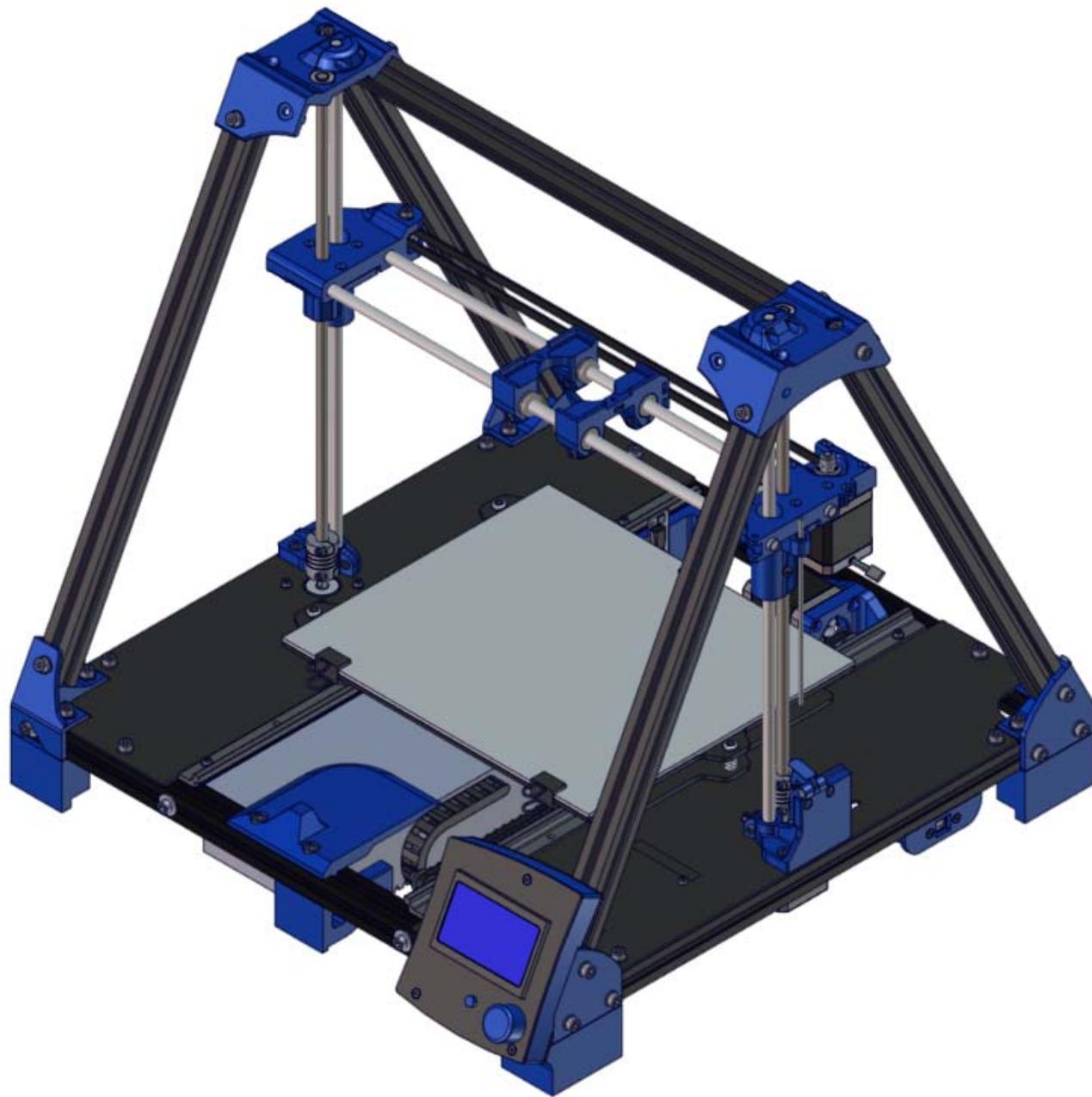


93



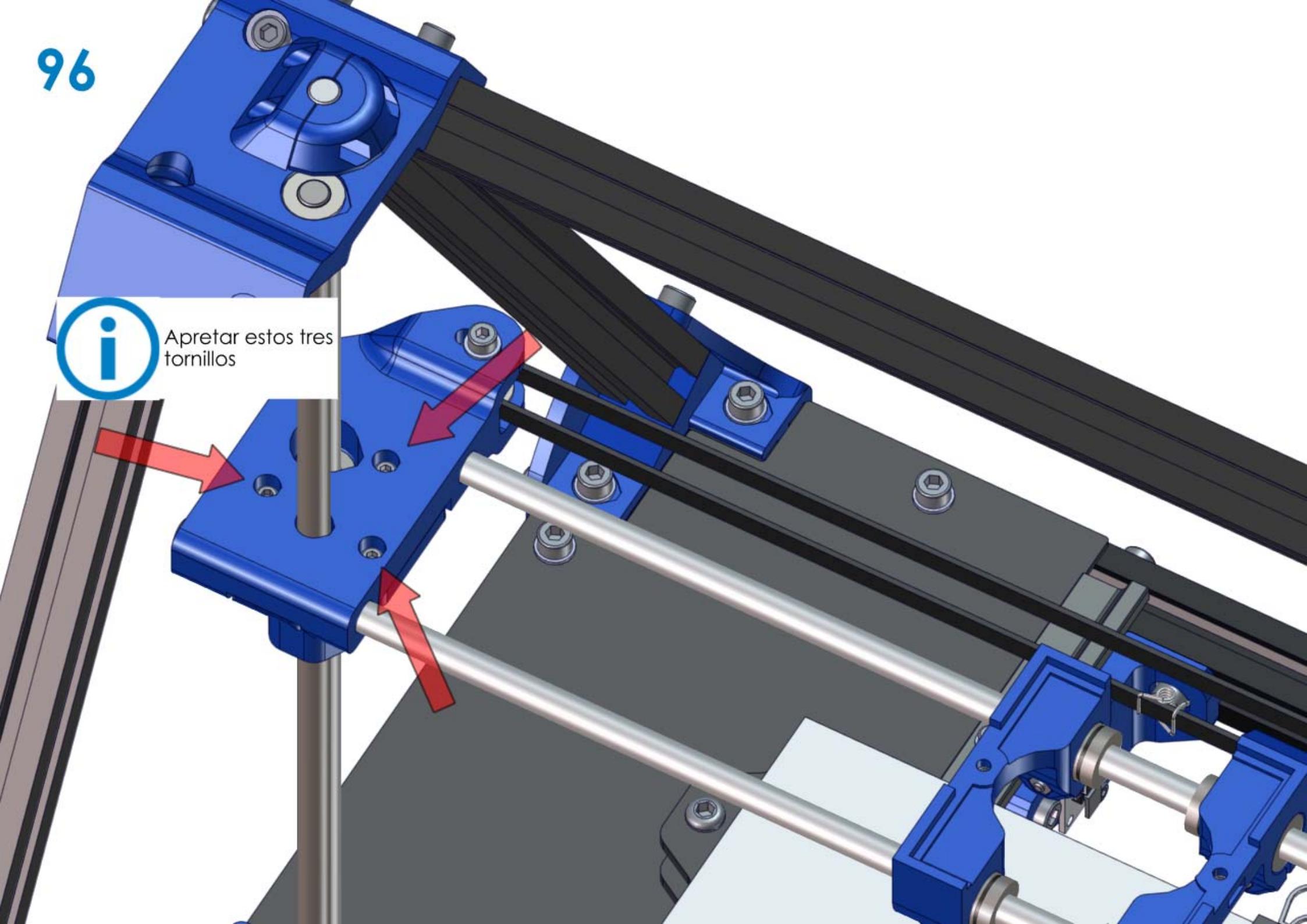


95



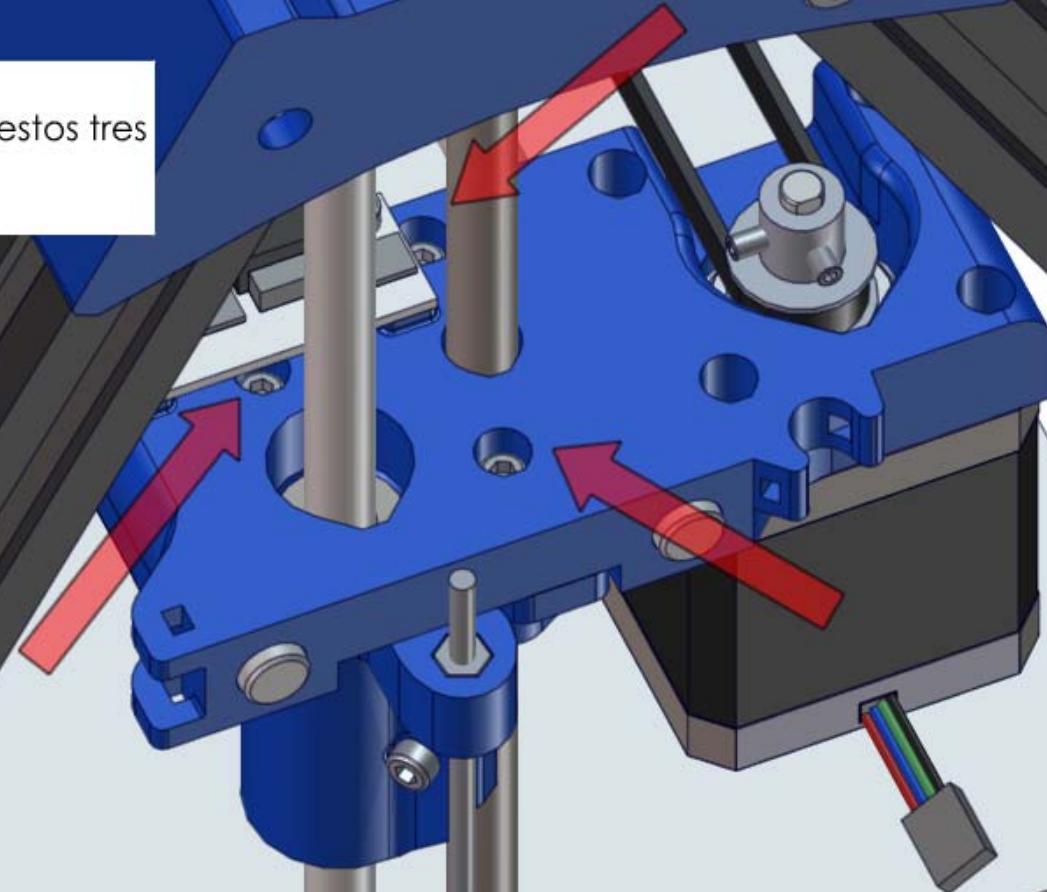


Apretar estos tres tornillos



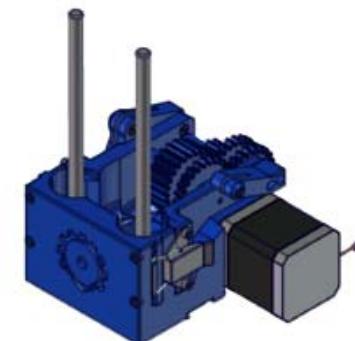
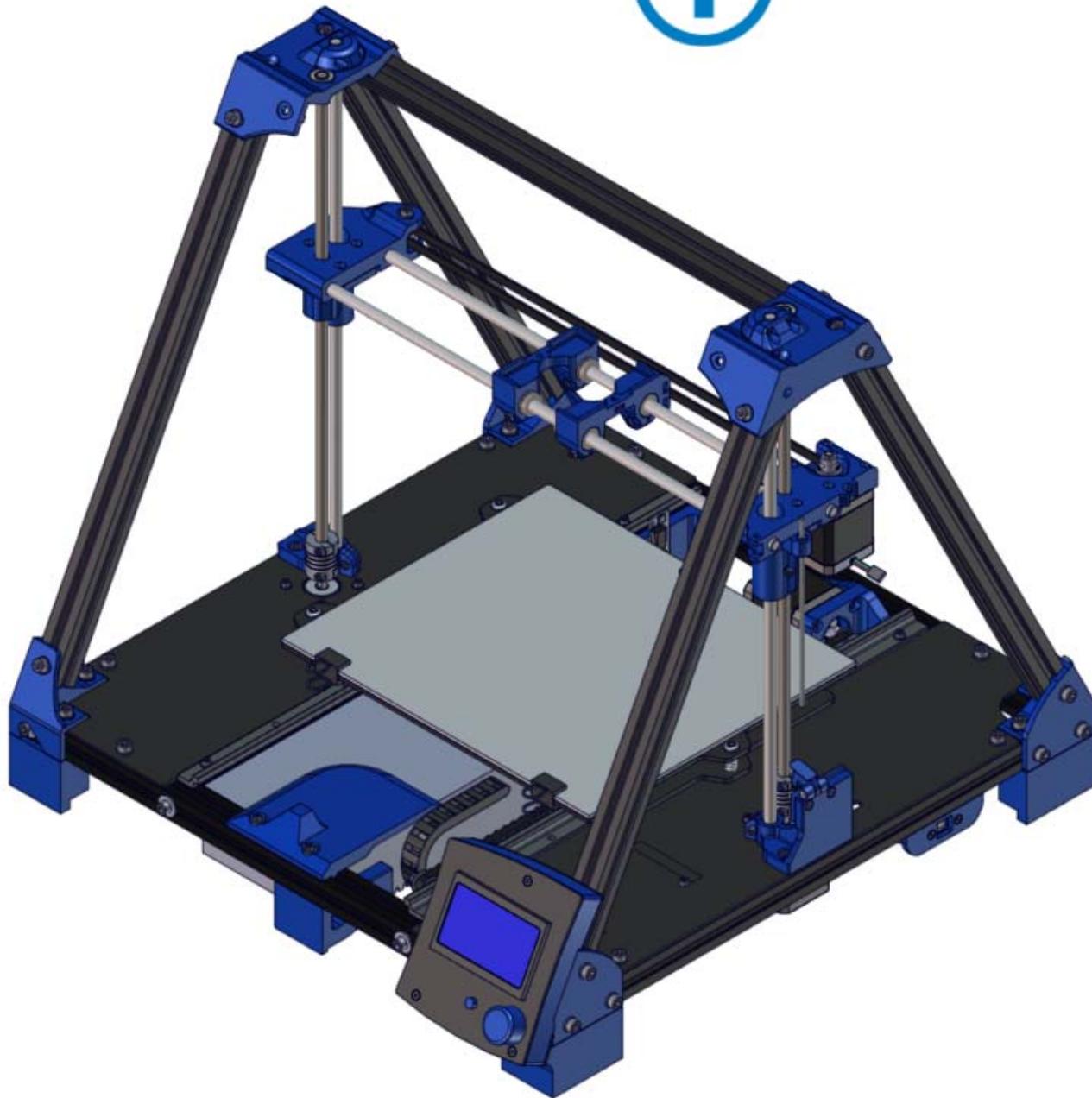


Apretar estos tres tornillos





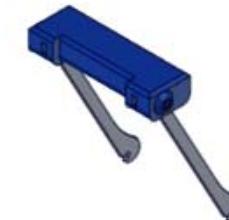
A partir de este punto se procederá al ensamblaje de los módulos:  
extruder body, plunguer, tirantes y jeringa.



Extruder body



Plunguer

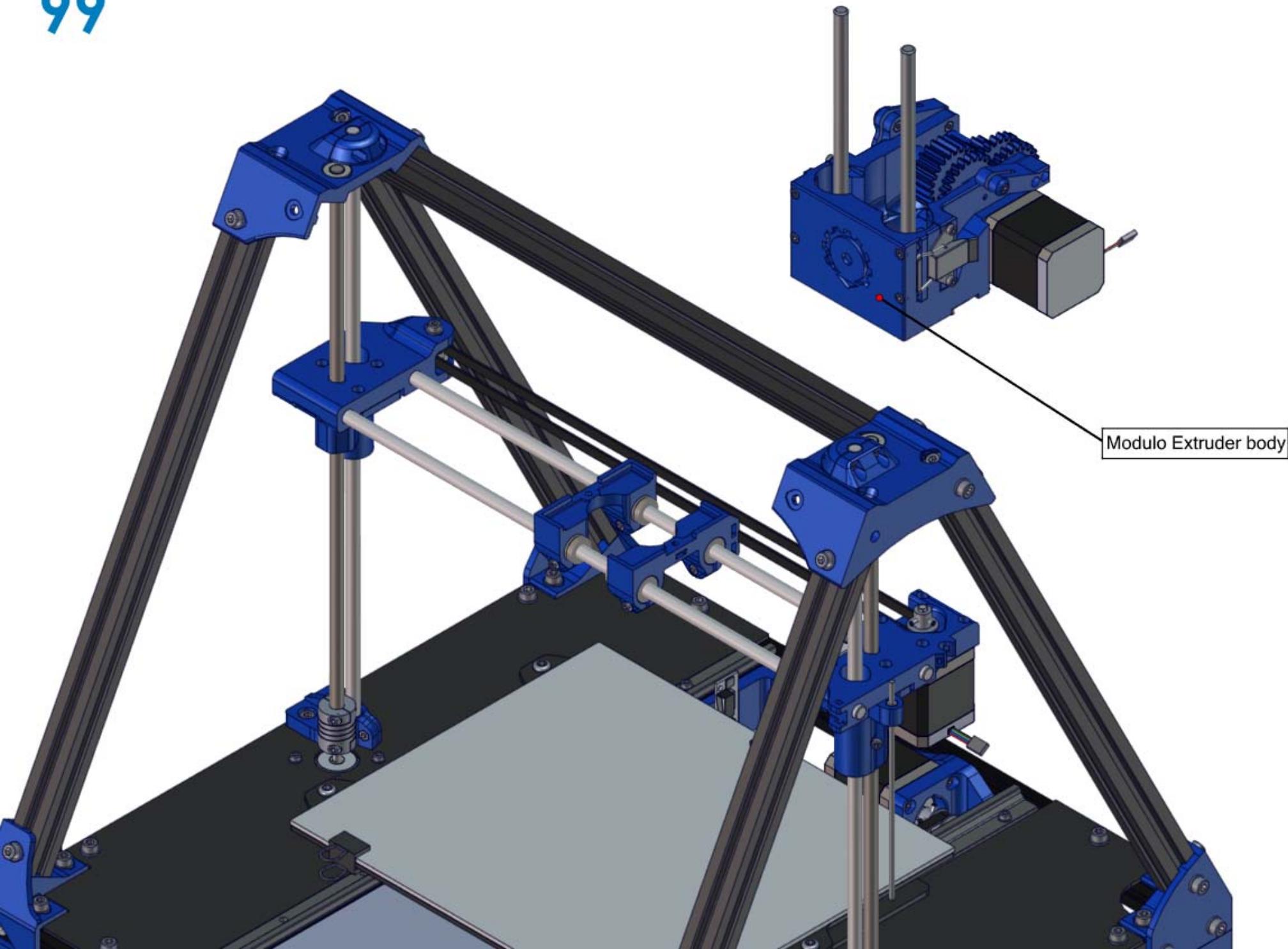


Tirantes

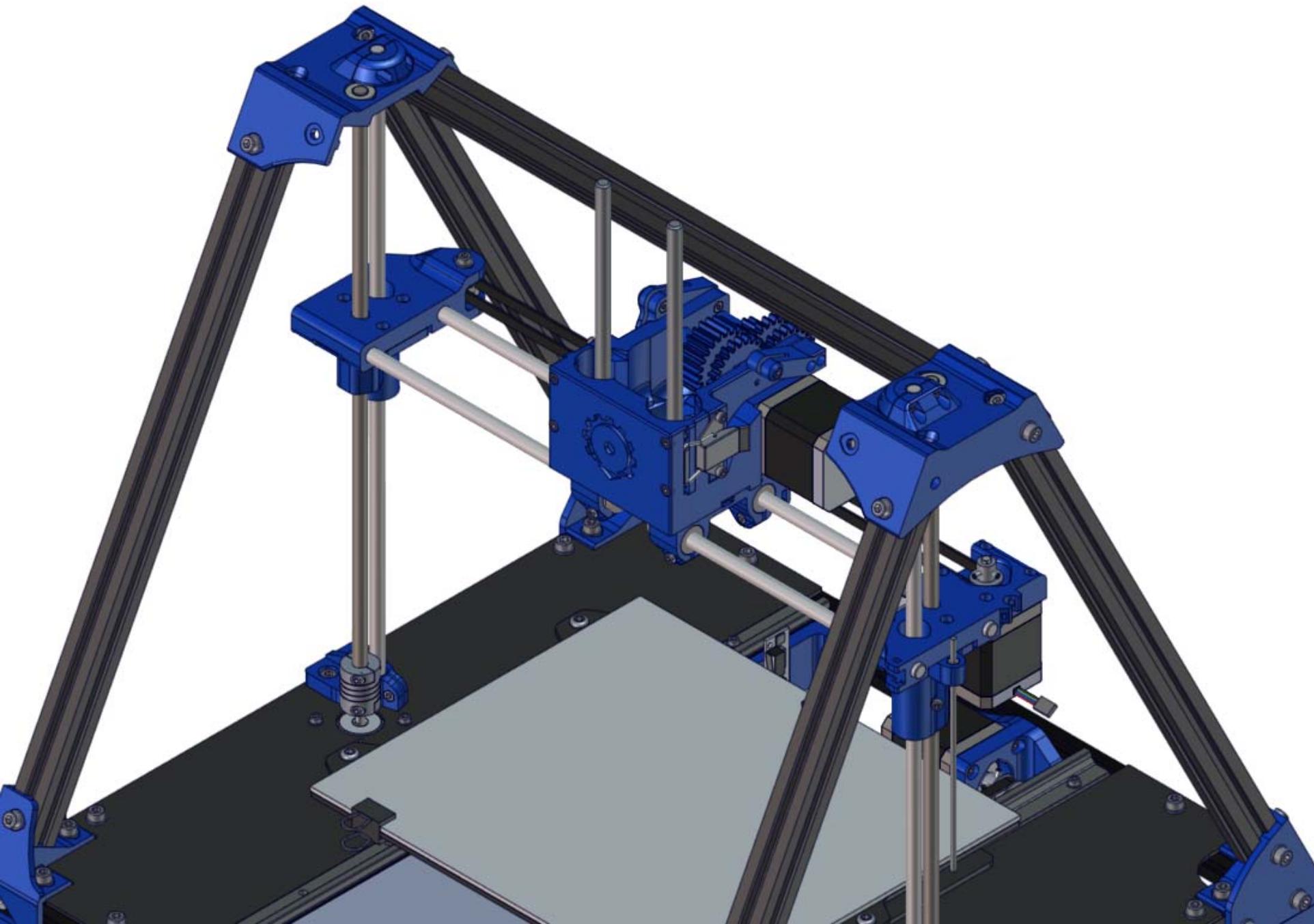


Jeringa

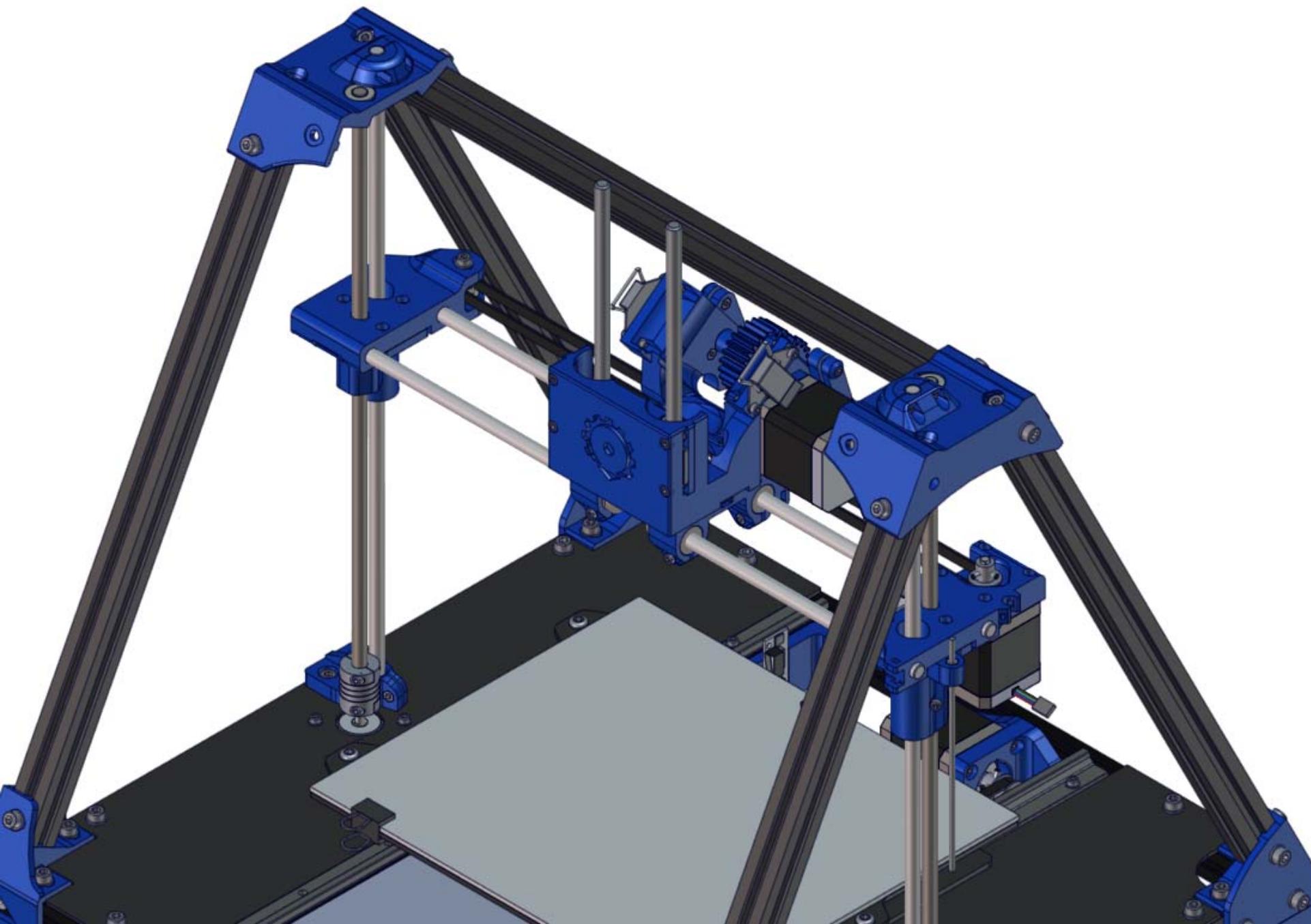
Main View



100



101

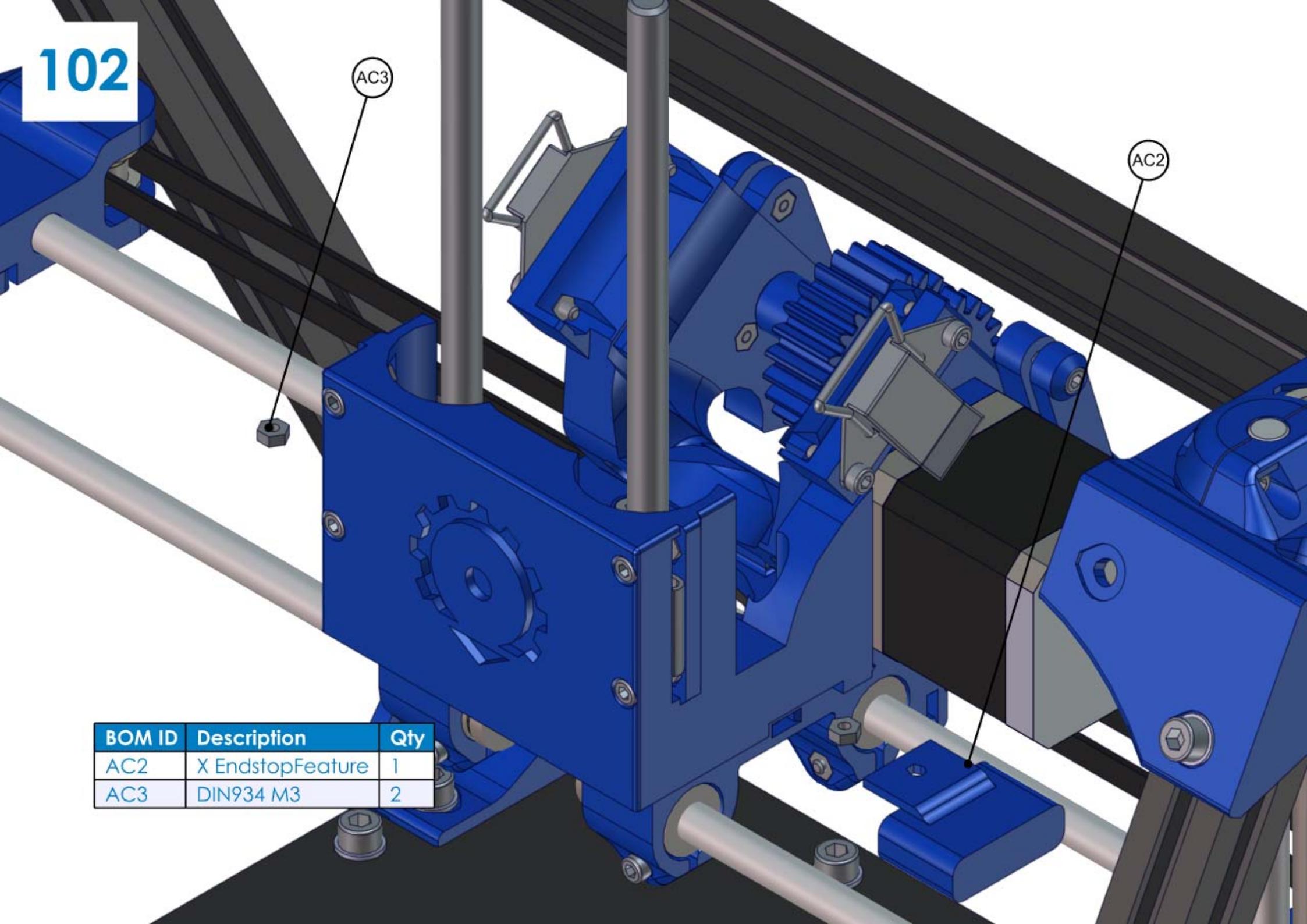


102

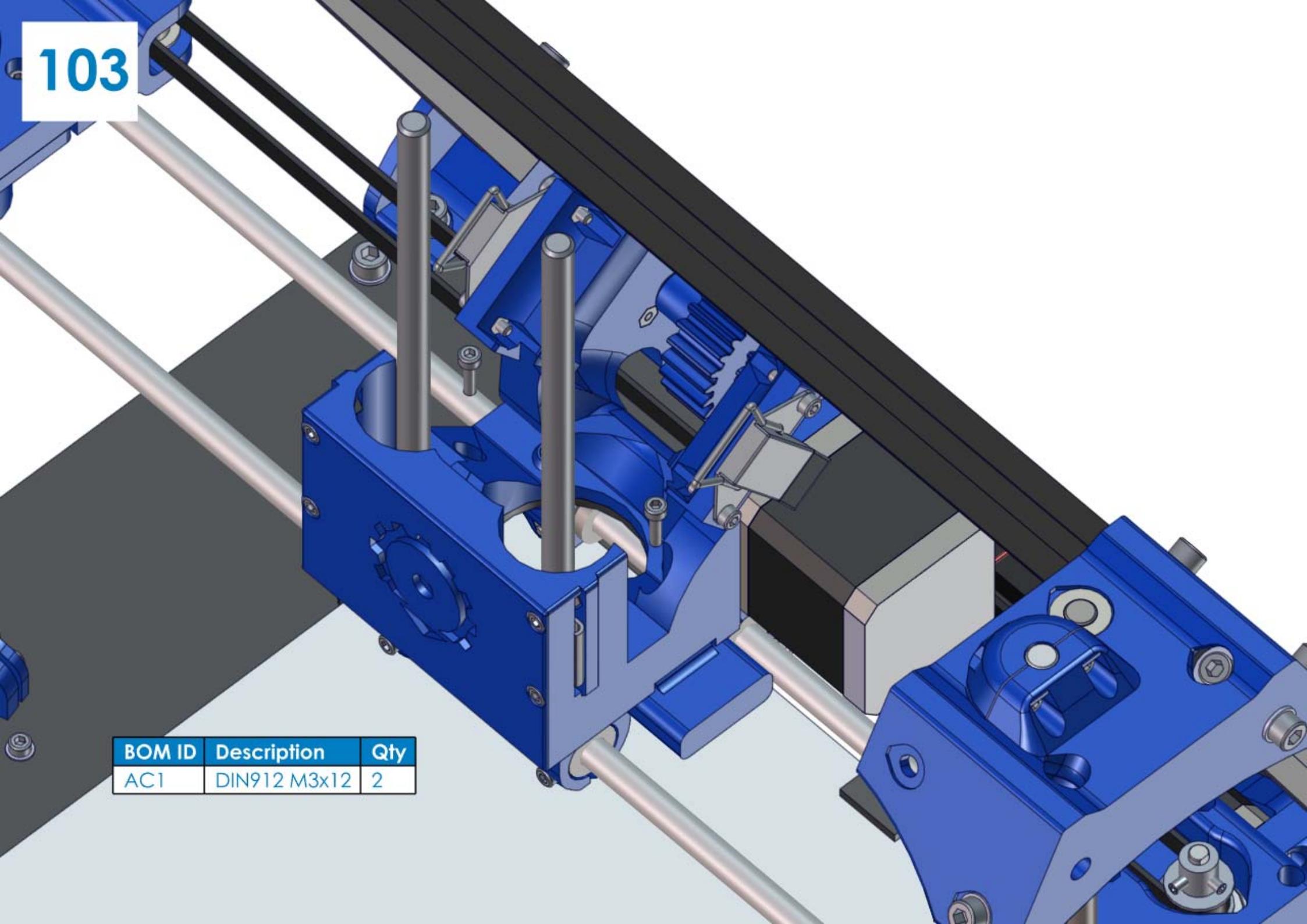
AC3

AC2

BOM ID	Description	Qty
AC2	X EndstopFeature	1
AC3	DIN934 M3	2

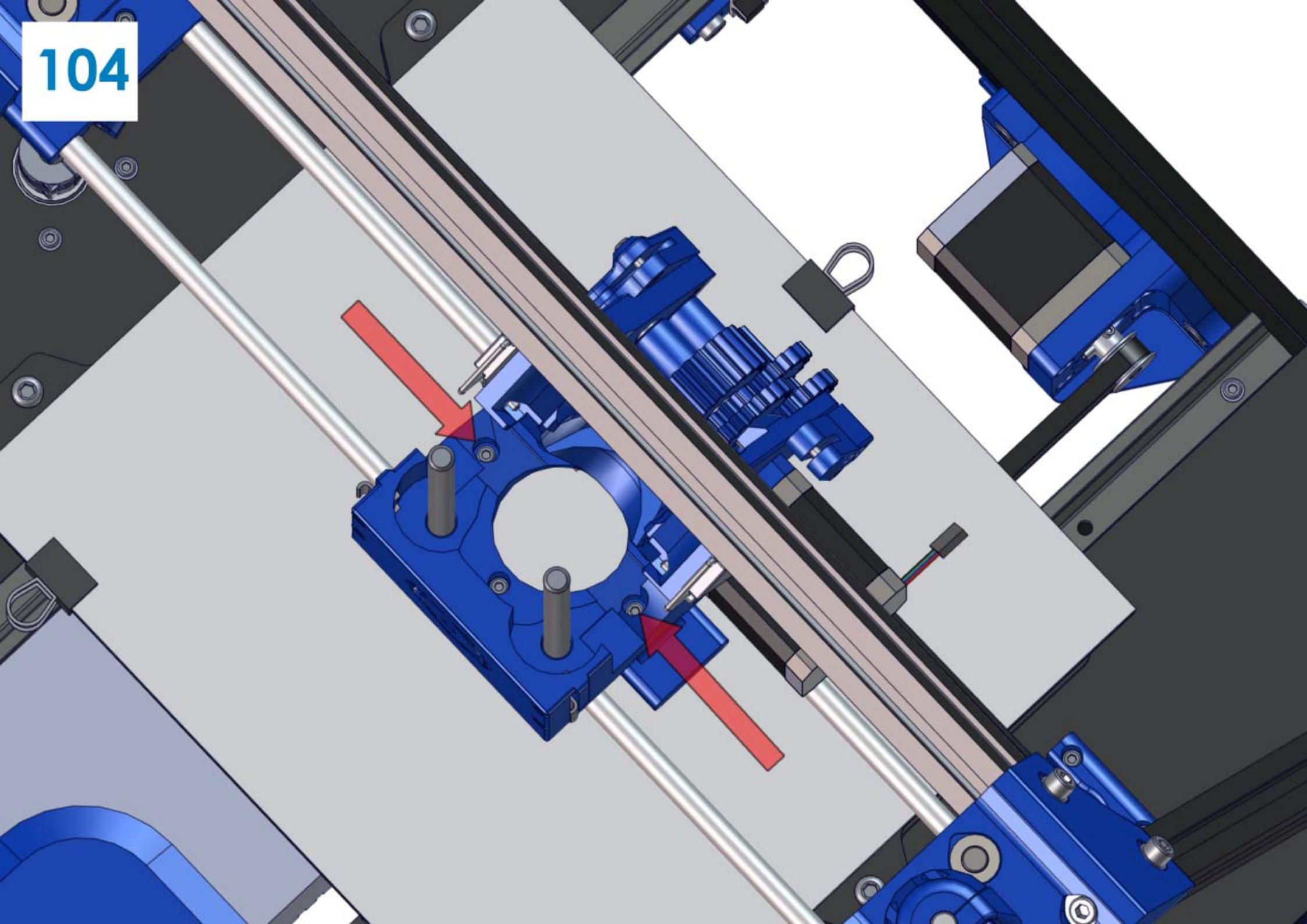


103

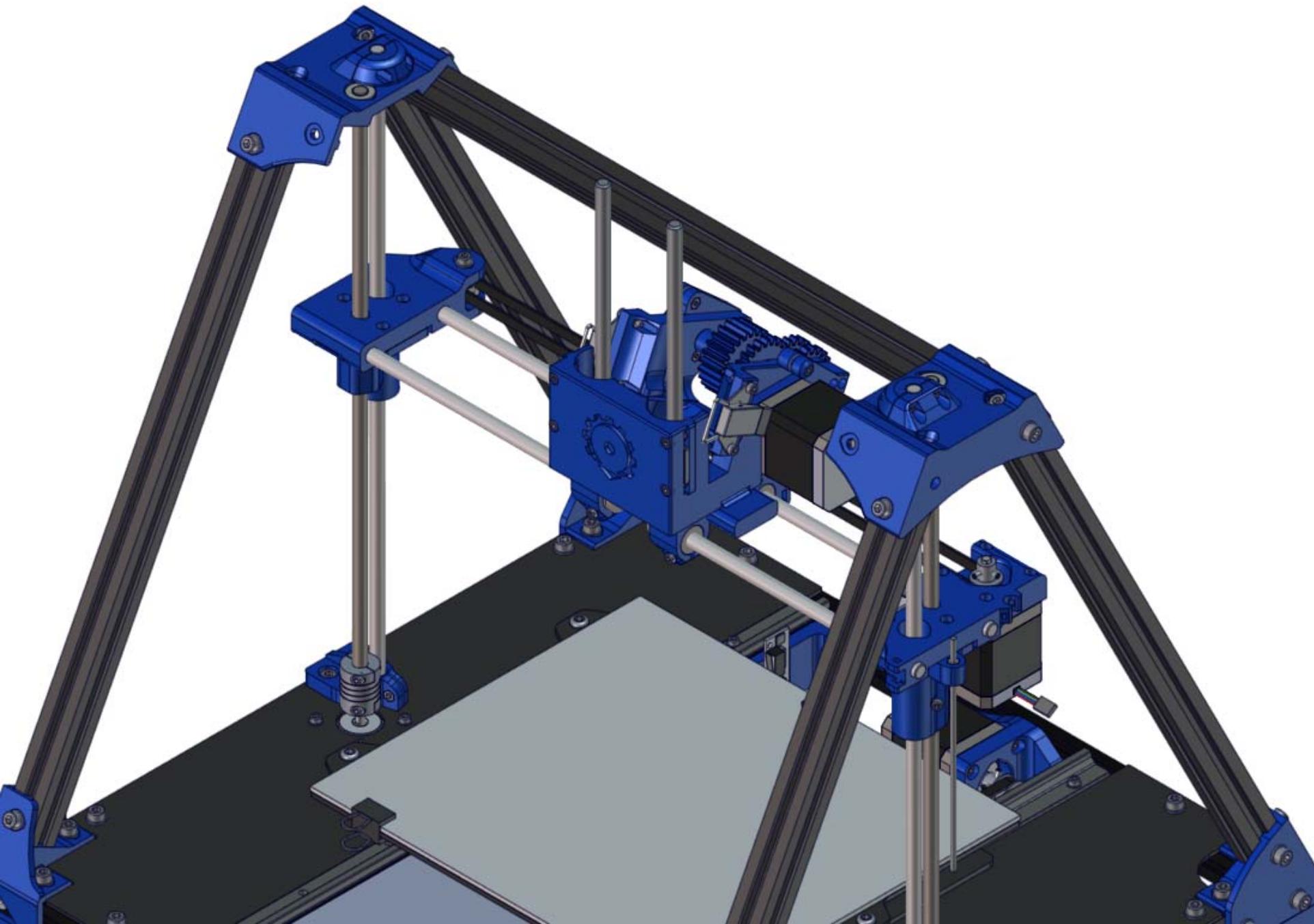


BOM ID	Description	Qty
AC1	DIN912 M3x12	2

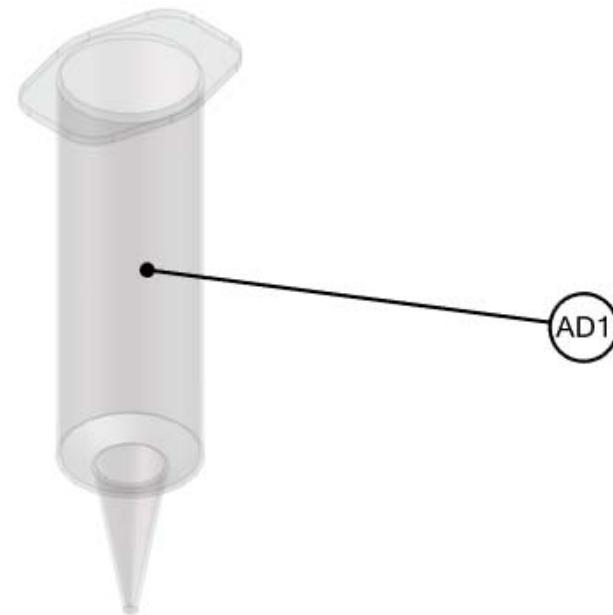
104



105



106

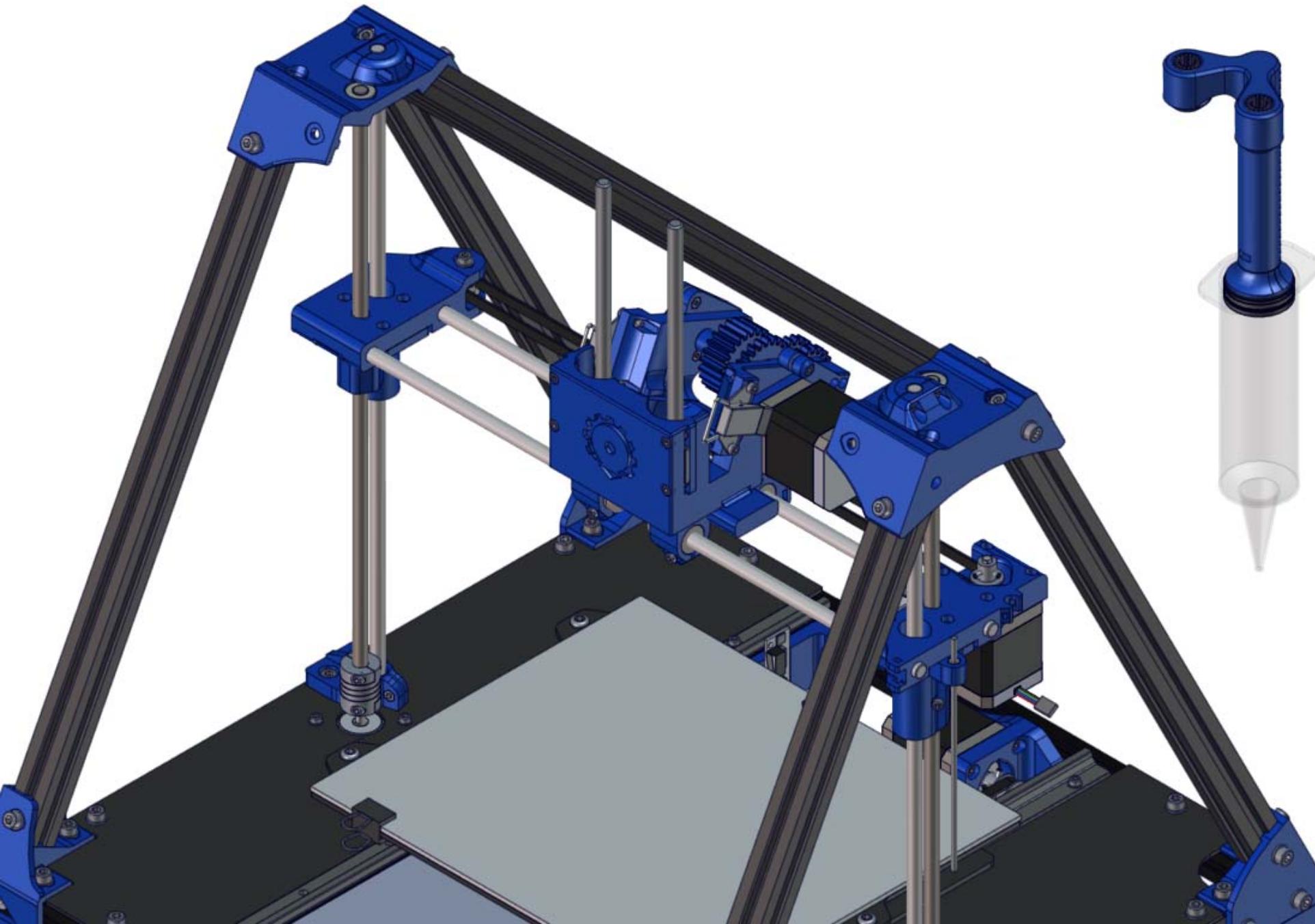


BOM ID	Description	Qty
AD1	Jeringa	1

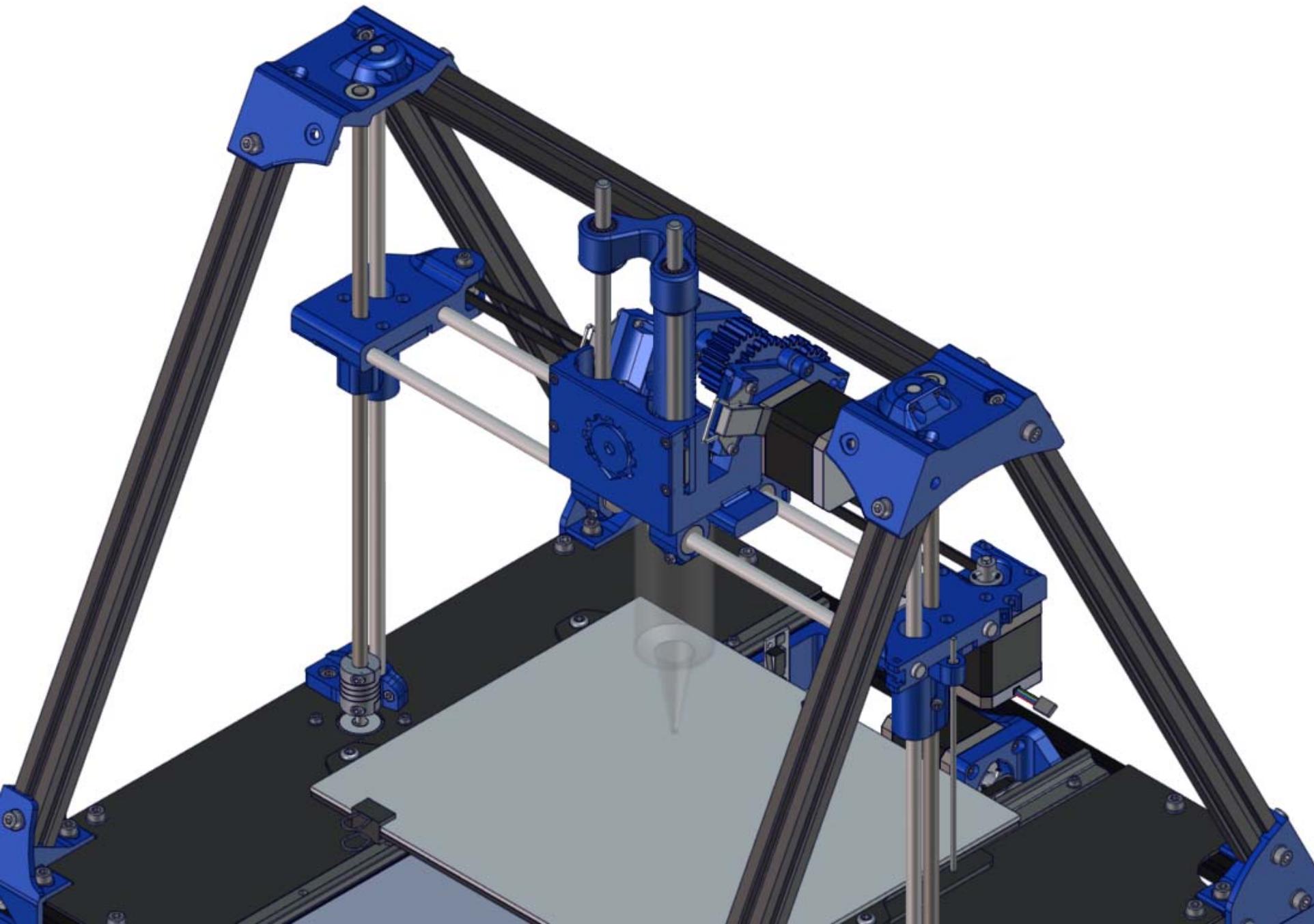
107



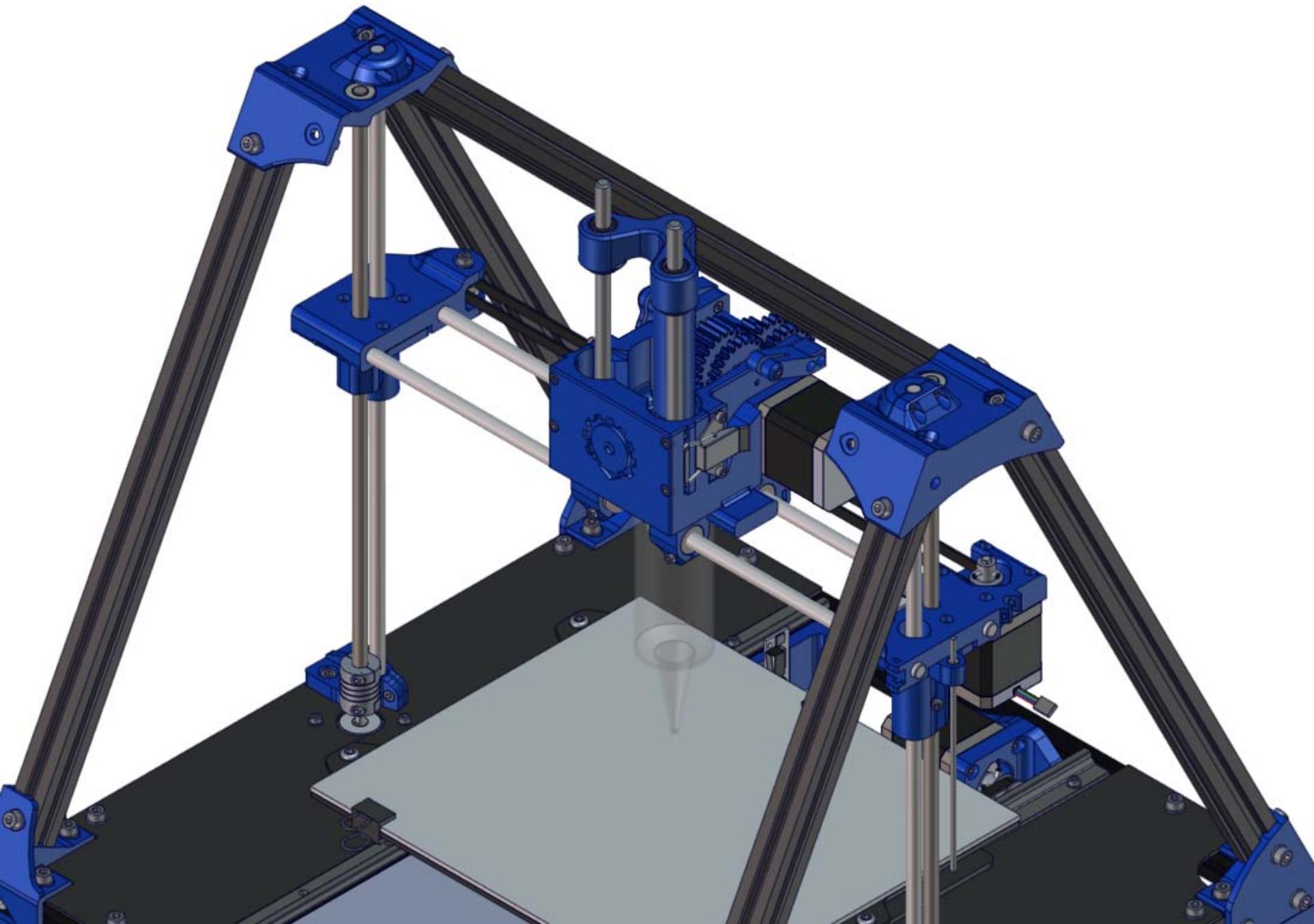
108



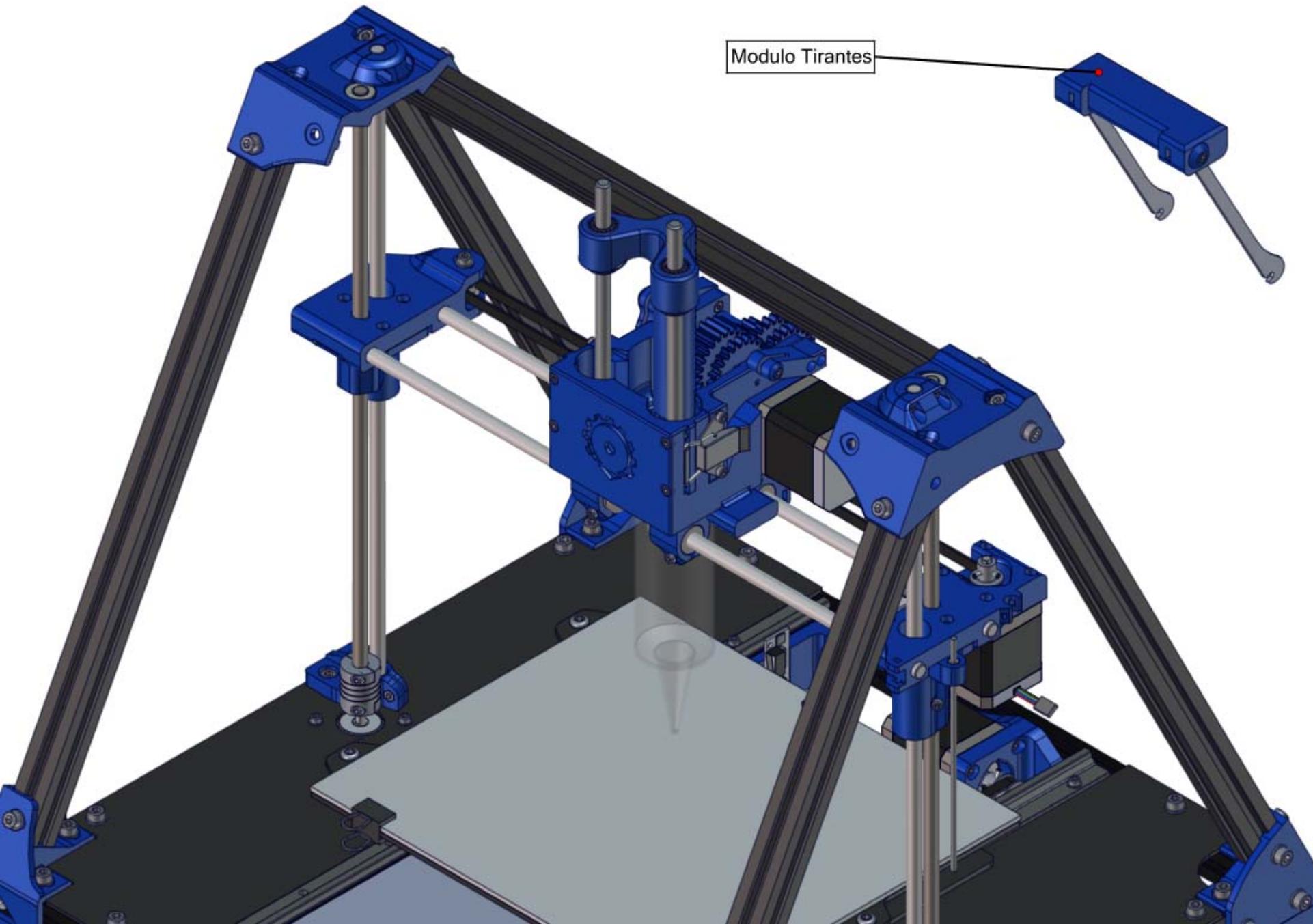
109



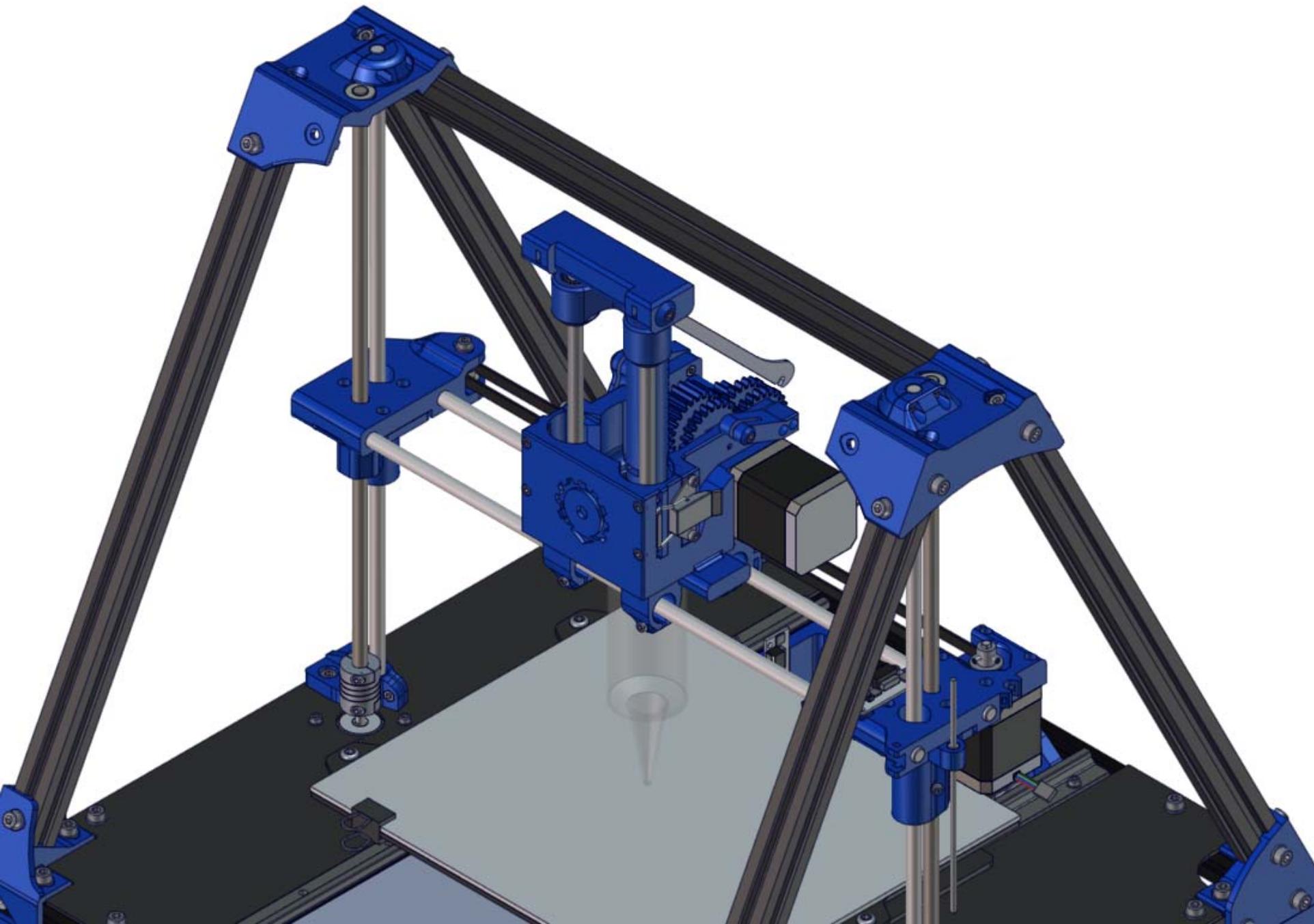
110



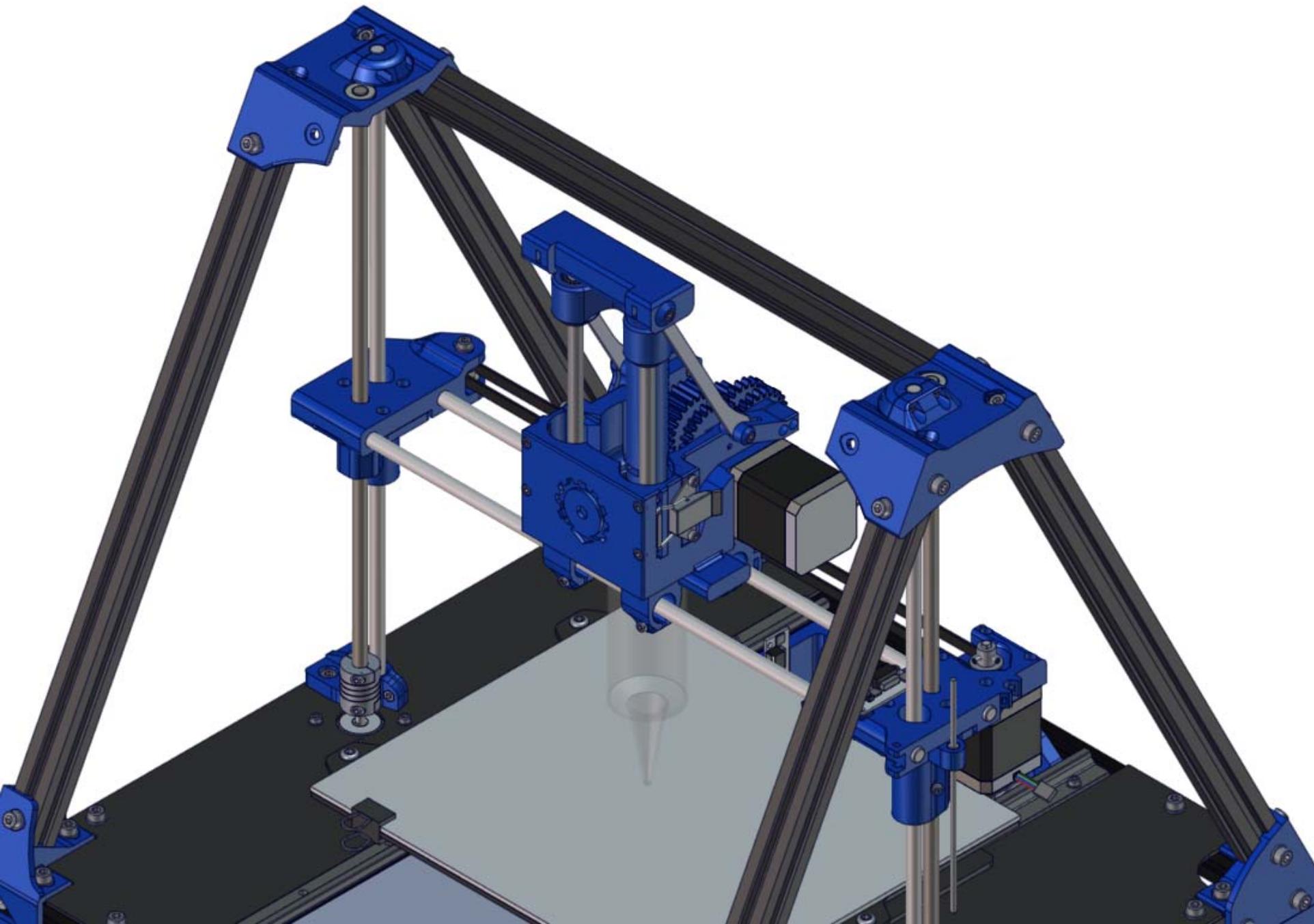
111



112

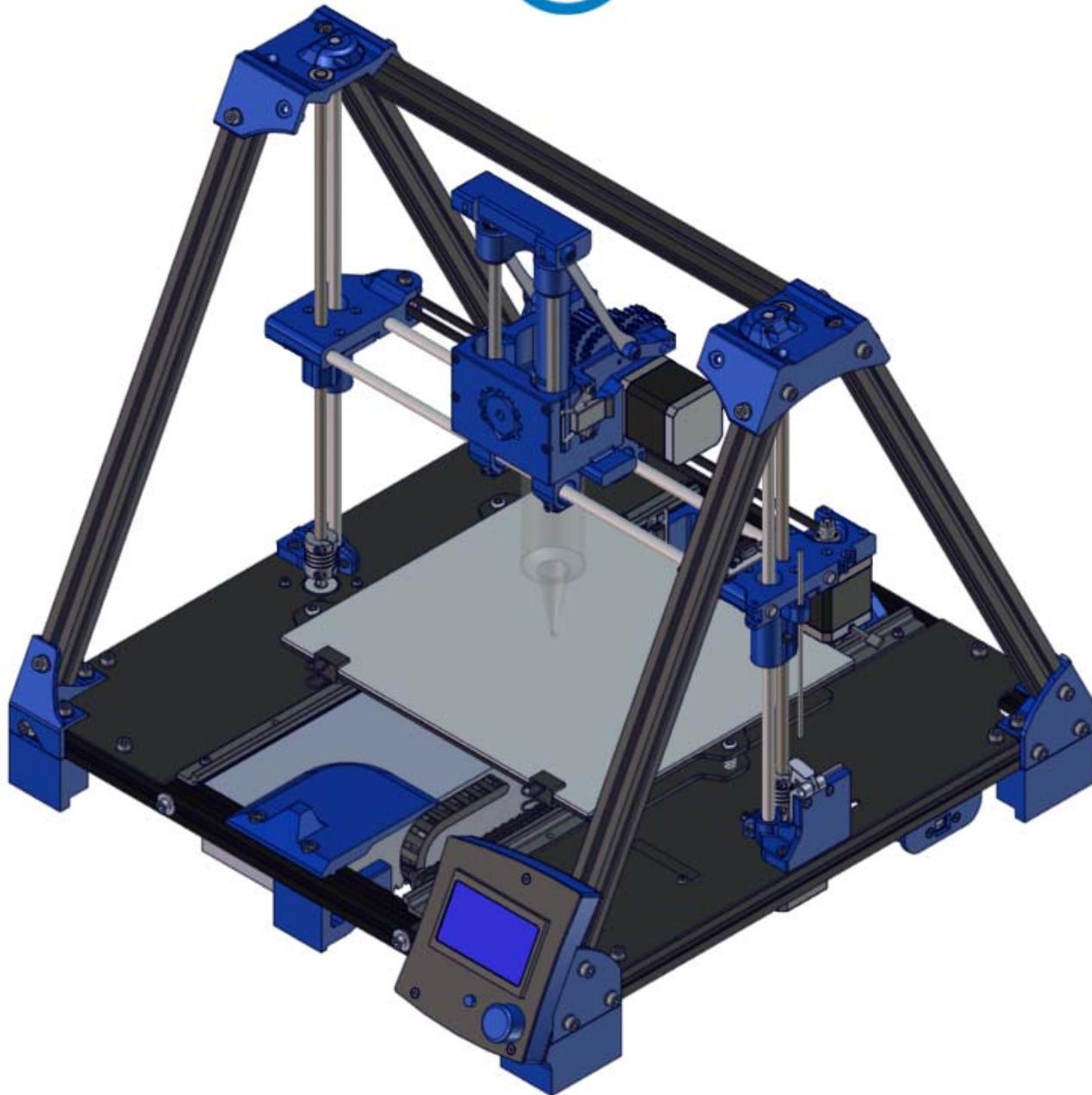


113

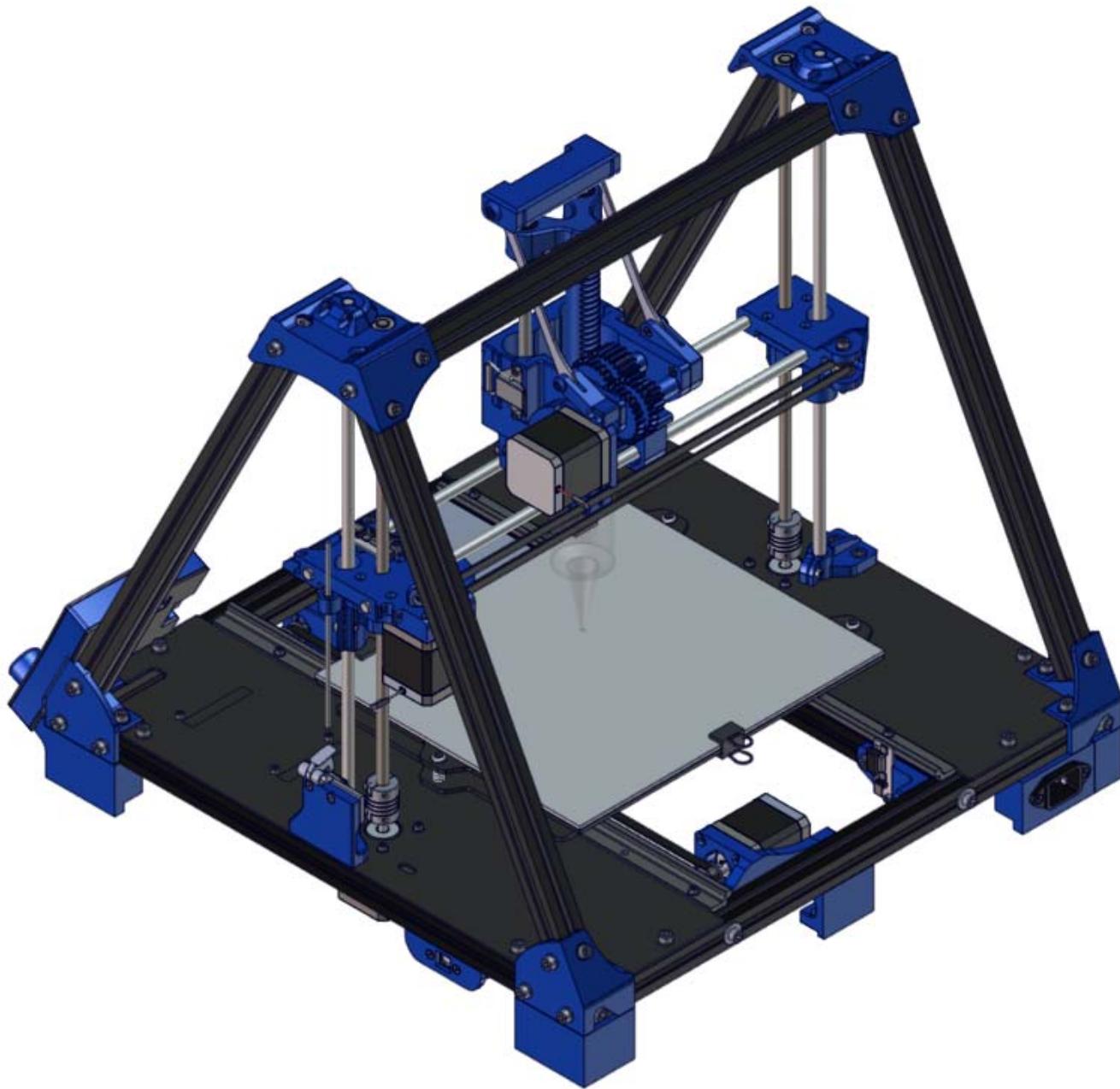




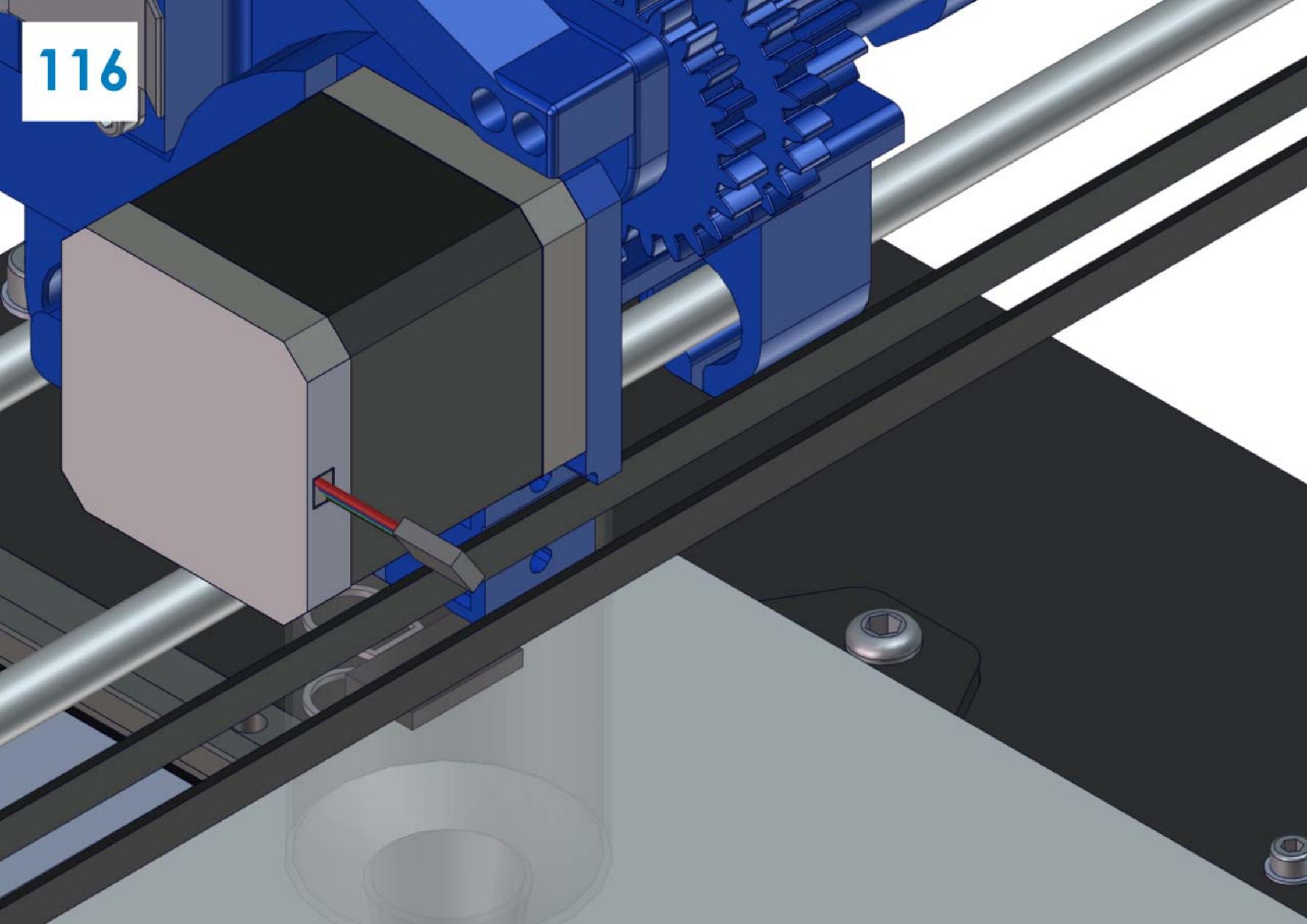
Para cambiar la pasta a extruir del interior de la jeringa se deberá proceder a desmontar los módulos en orden inverso.

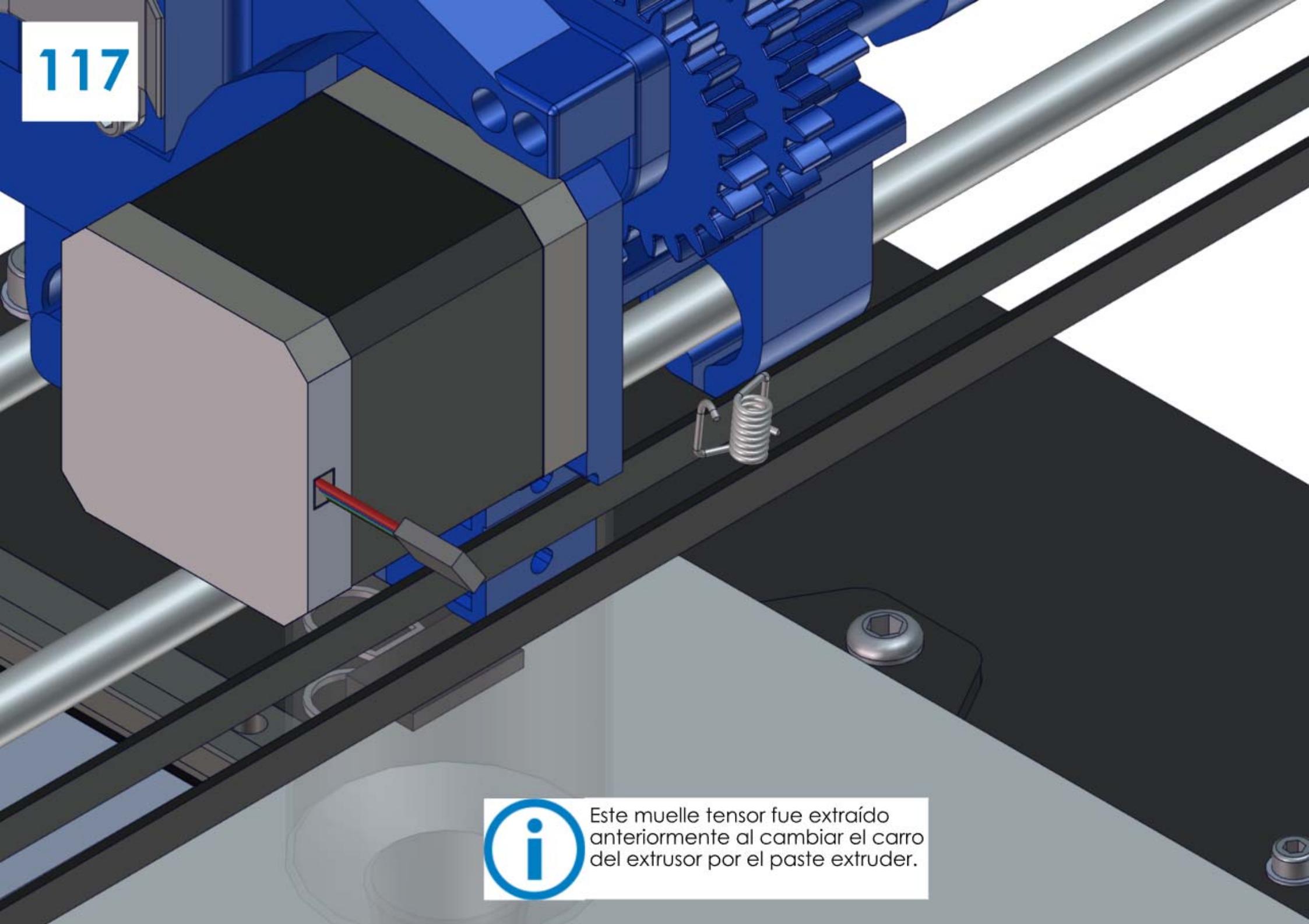


115



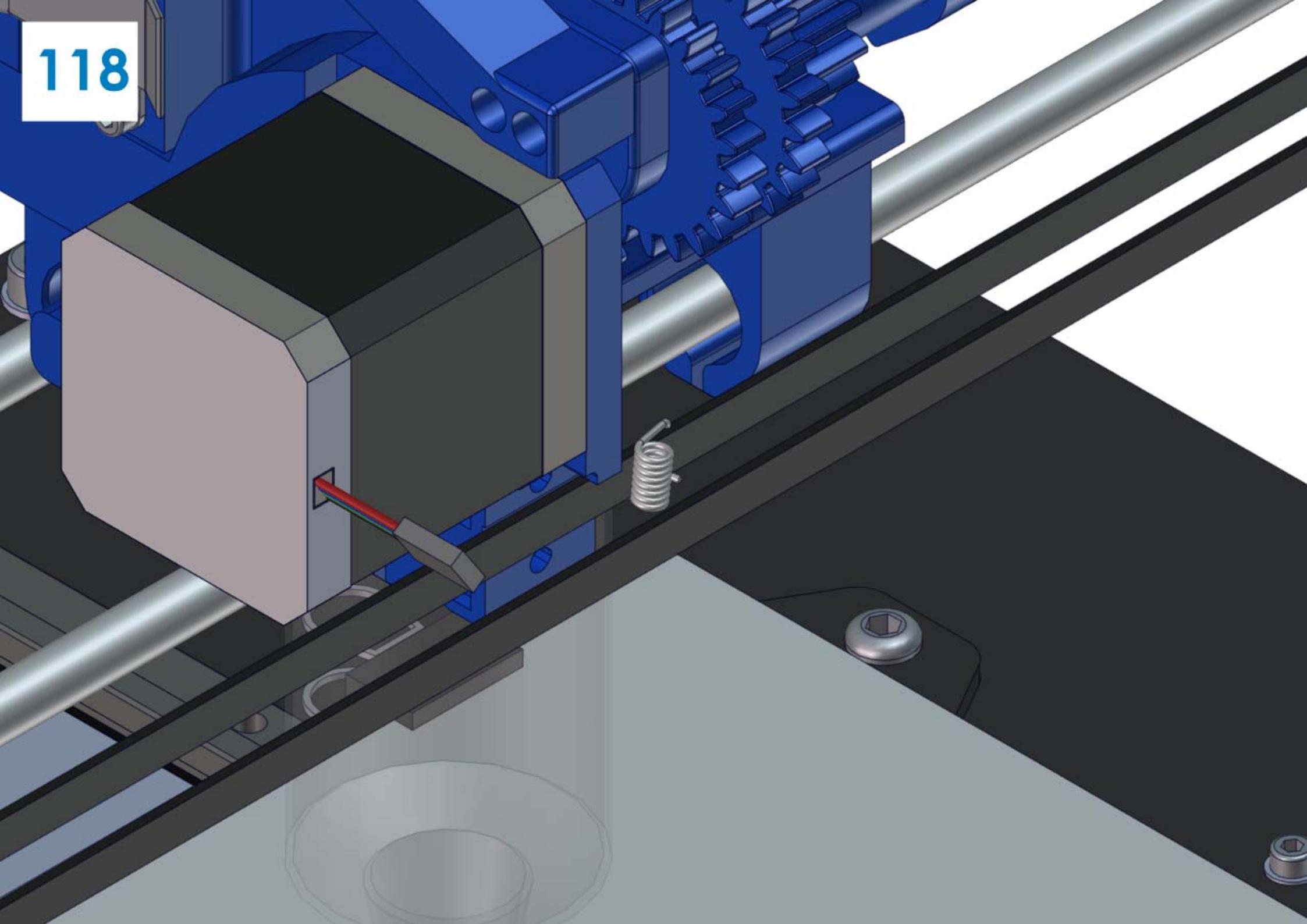
116



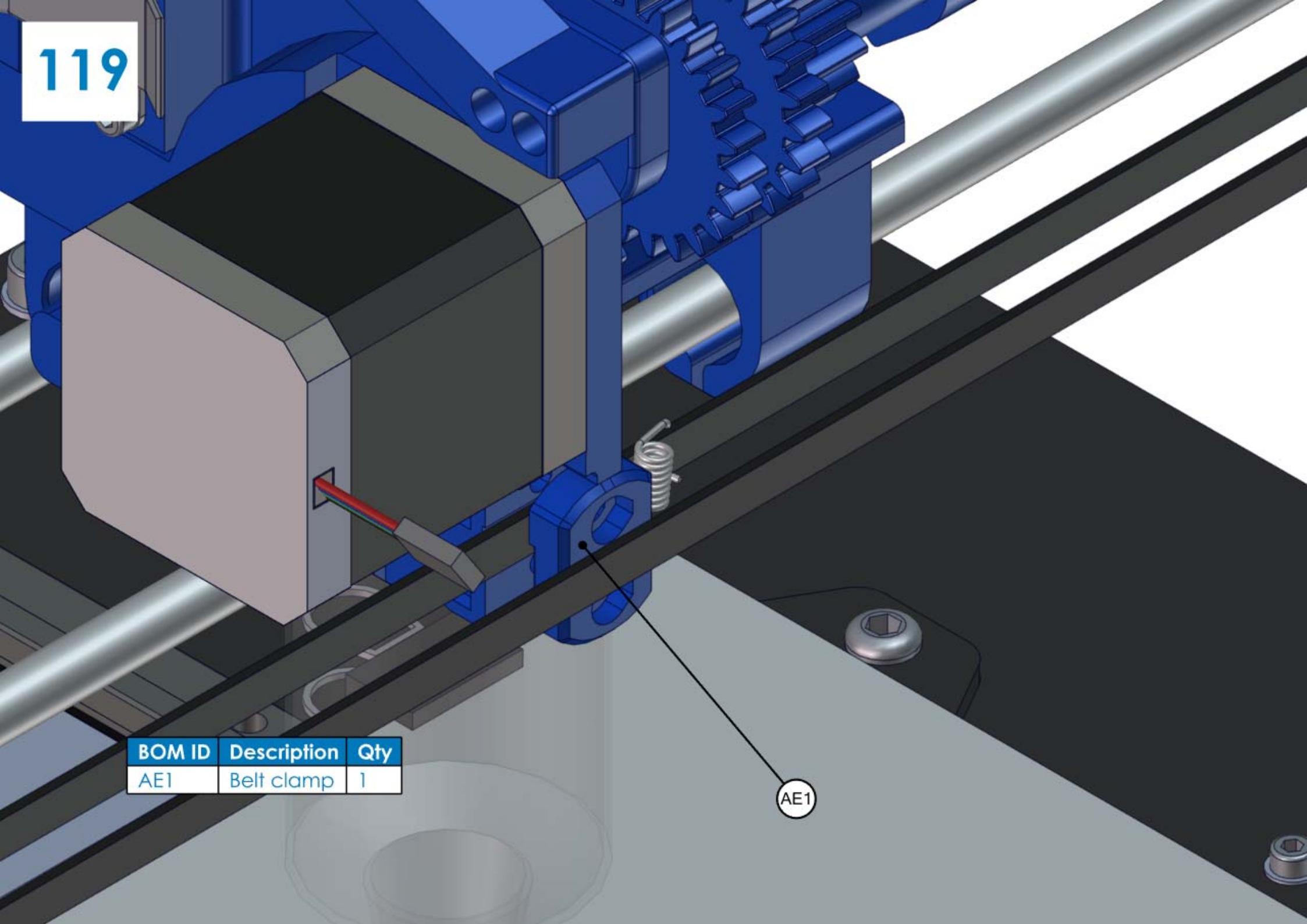


Este muelle tensor fue extraído  
anteriormente al cambiar el carro  
del extrusor por el paste extruder.

118



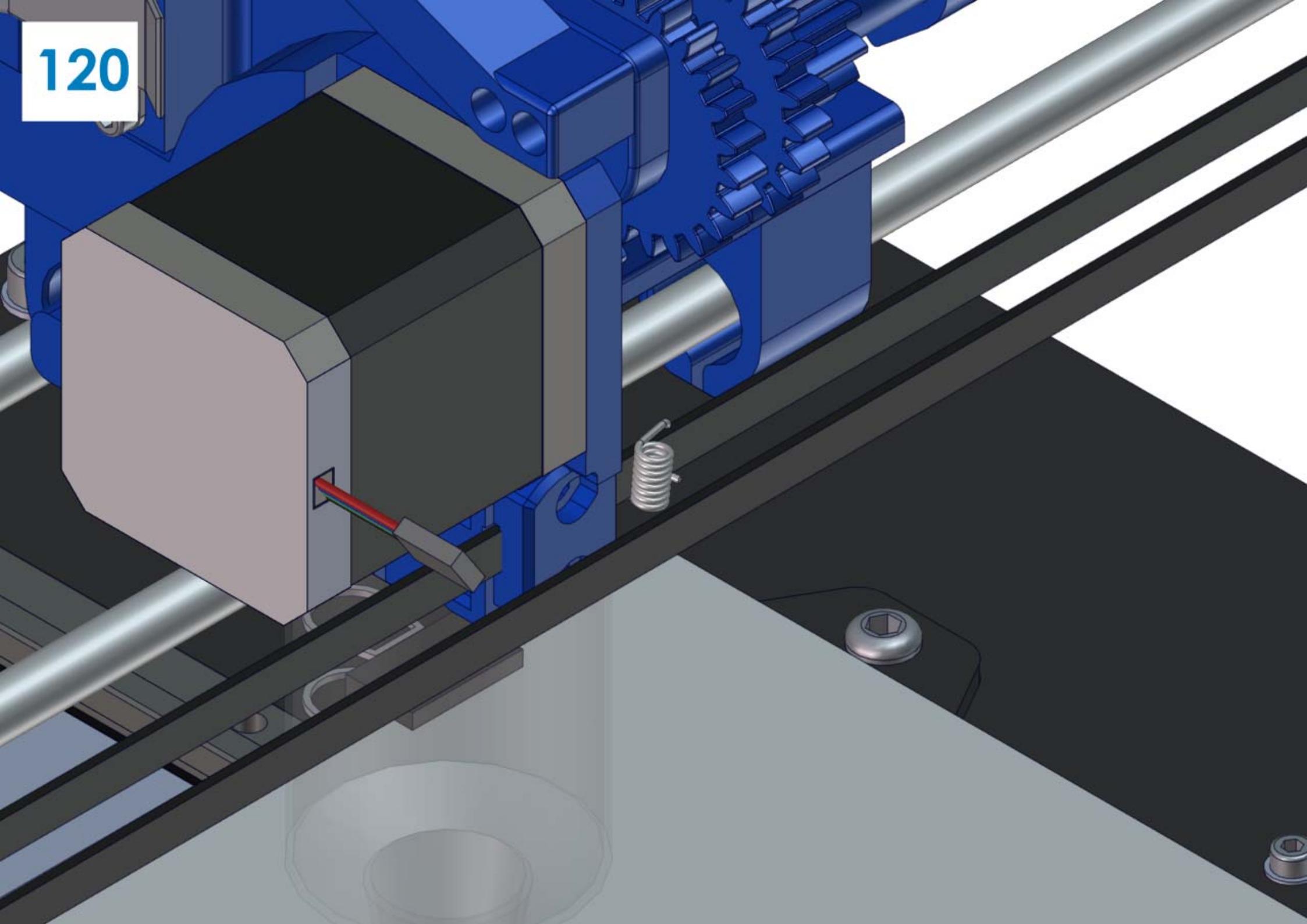
119



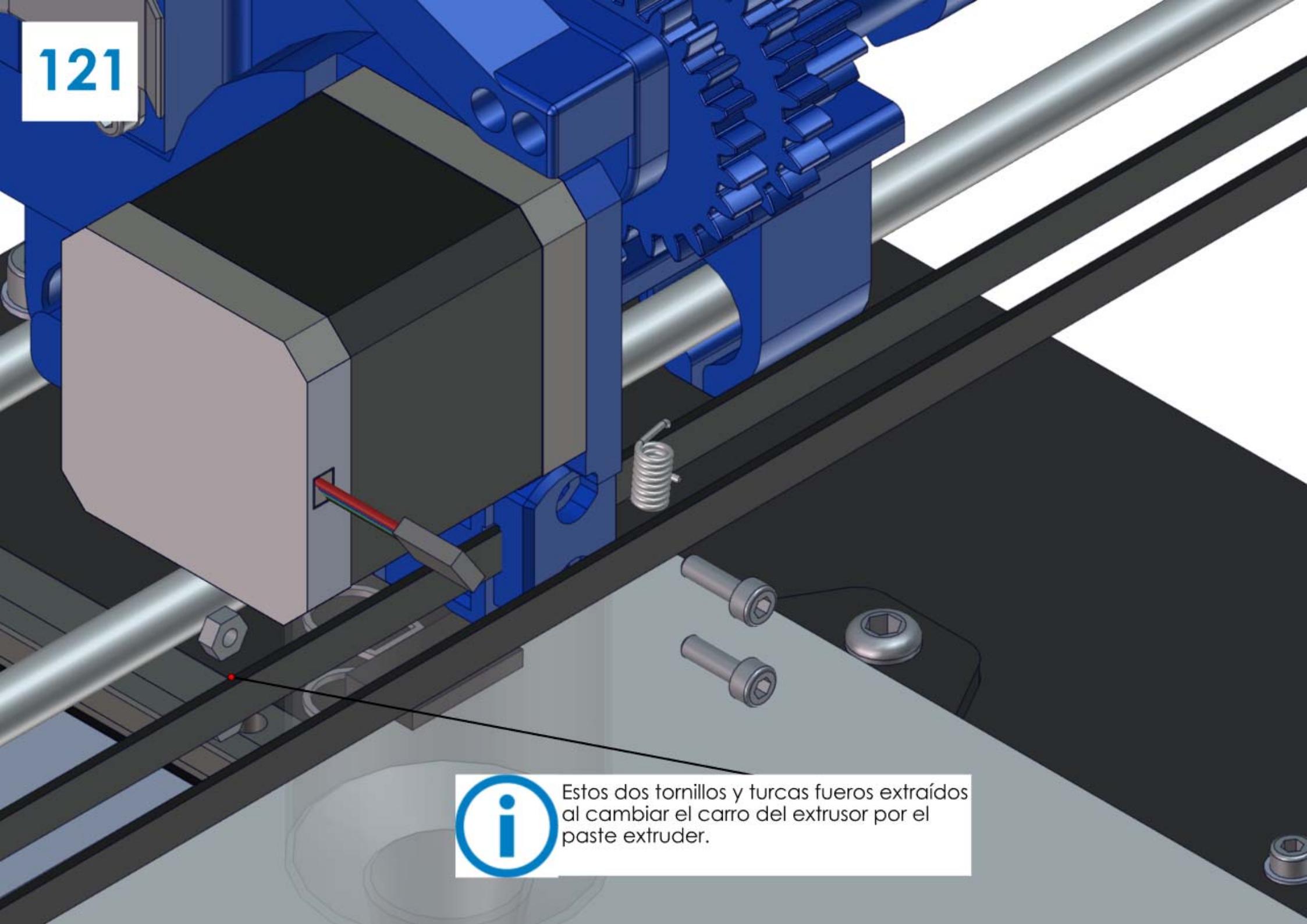
BOM ID	Description	Qty
AE1	Belt clamp	1

AE1

120

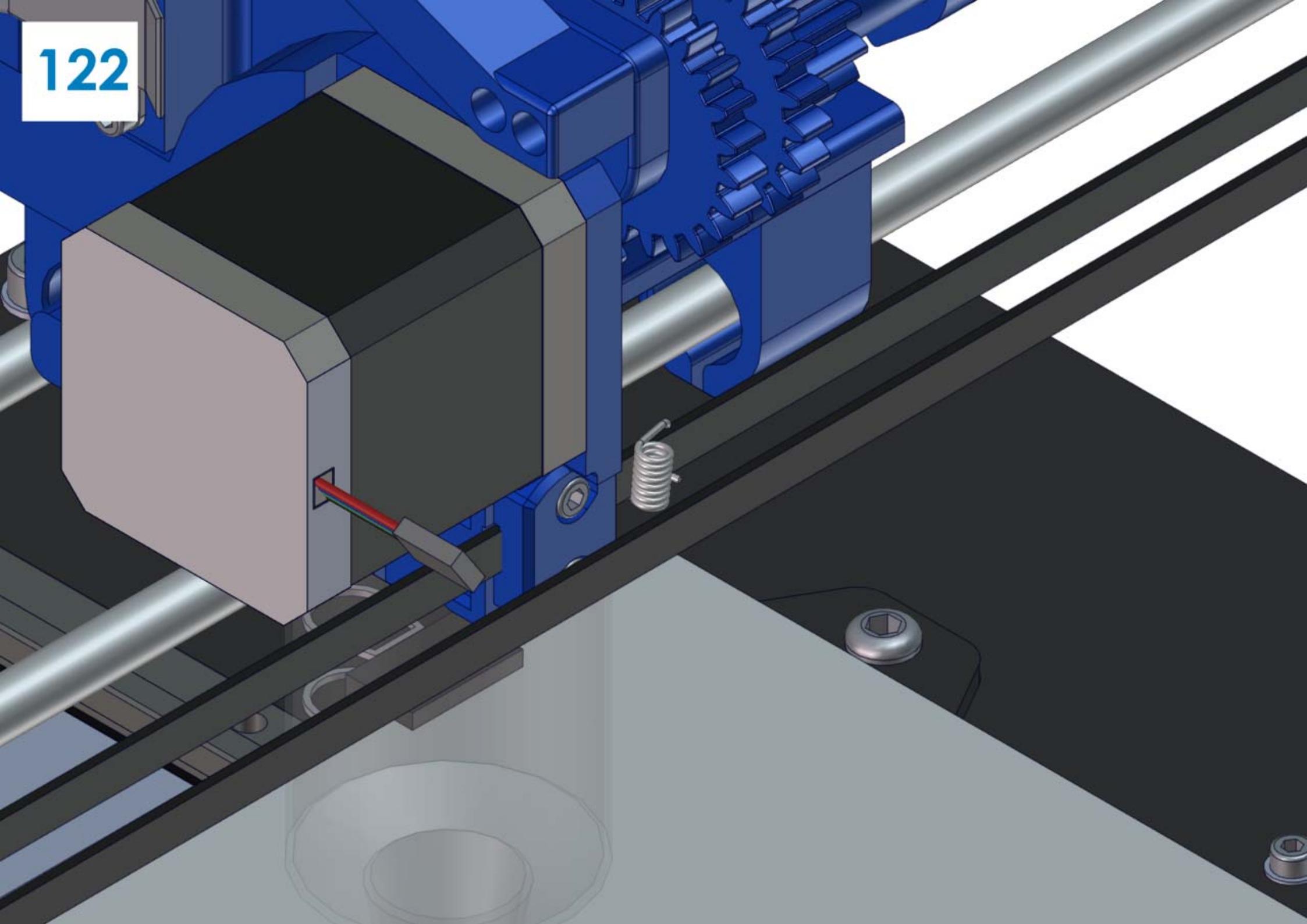


121

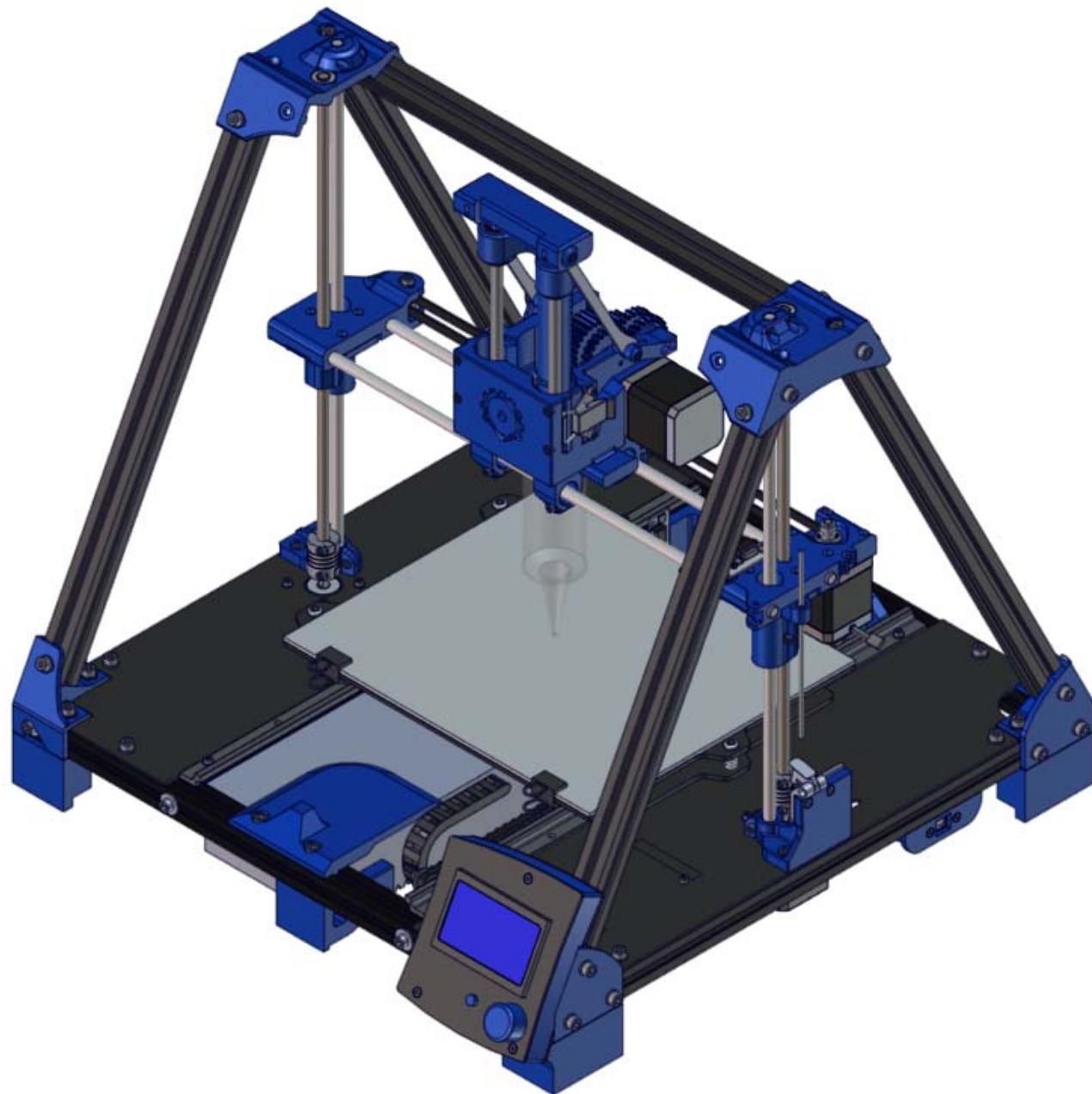


Estos dos tornillos y turcas fueron extraídos  
al cambiar el carro del extrusor por el  
paste extruder.

122



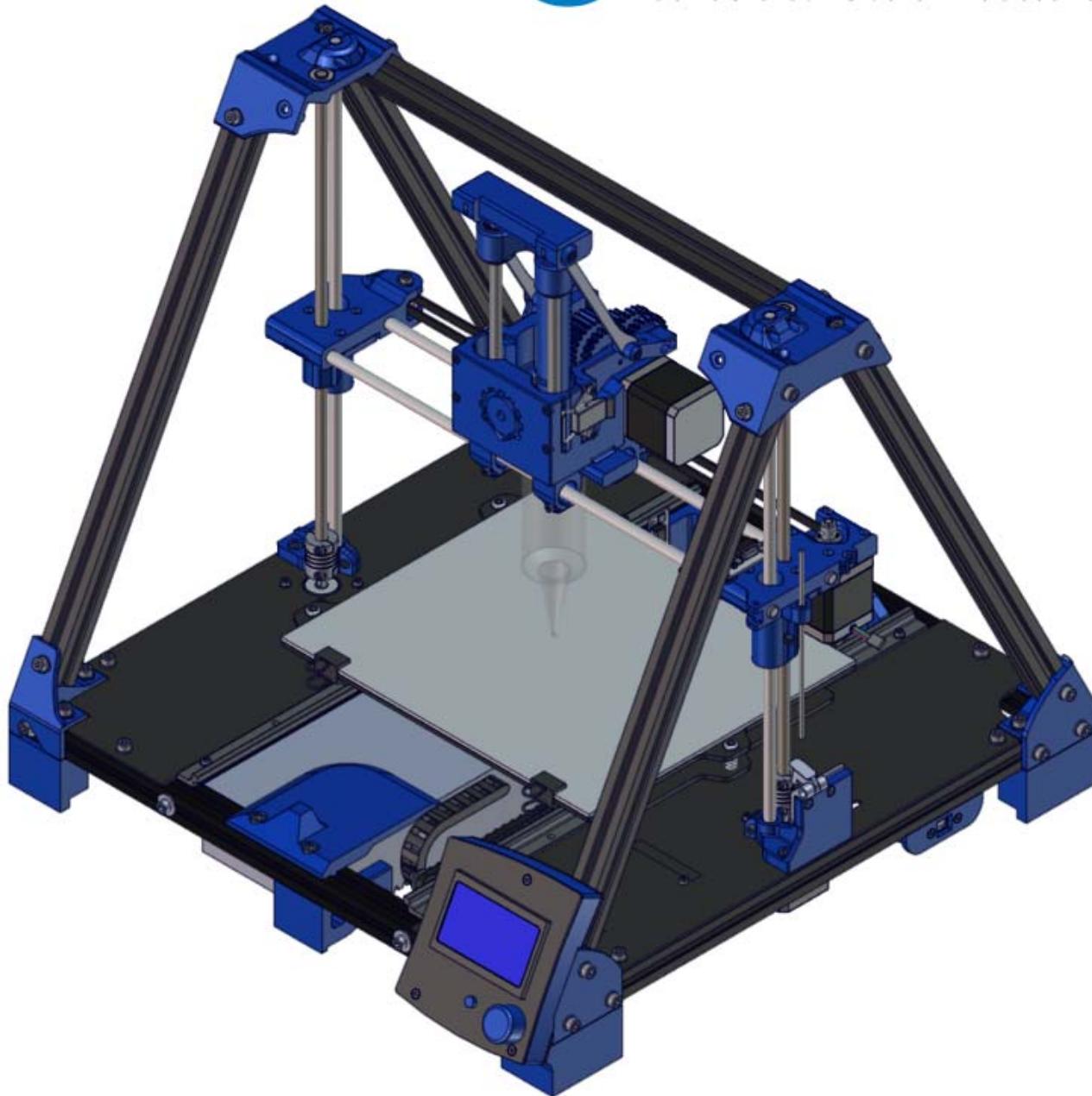
123



124



Una vez finalizado el ensamblaje del Paste extruder, se deberá proceder a conectar el conector del motor, el resto de conectores no serán necesarios.





En este apartado se indican los pasos a seguir para poder modificar el firmware de la impresora a la nueva upgrade del Paste extruder.

El primer paso consiste en instalar el IDE de Arduino en un ordenador. Este es el programa que nos permitirá interactuar con la tarjeta Arduino de la BCN3D+.

1. Descargar el paquete de software Arduino de nuestra web [www.reprapbcn.com](http://www.reprapbcn.com) de la sección de descargas ( documentación ) y descargar la versión del firmware para el Paste extruder.
2. Una vez descargado, conectar la BCN3D+ al ordenador mediante un cable usb. De esta manera se establece la conexión con el Arduino.

La primera vez que se conecta una placa a un ordenador hace falta instalar los drivers del componente. Si el ordenador no instala los drivers automáticamente al conectar la placa, seguir los pasos explicados en: <http://arduino.cc/en/guide/windows#toc3>

3. Abrir la aplicación Arduino
4. Desde el menu Archivo>Abrir, seleccionarla versión de firmware del Paste extruder descargada anteriormente.

El archivo que se debe abrir tiene extensión \*.ino, y se encuentran en una carpeta con el mismo nombre, mezclado con todos los subprogramas del firmware.

5. Seleccionar el modelo de tarjeta Arduino y el puerto desde Herramientas>Tarjeta>Arduino Mega 2560 y Herramientas>Puerto Serial>COM X

- La tarjeta con la que opera la BCN3D+ es una Arduino Mega 2560.
- El puerto se refiere al conector dónde tenemos conectada la placa en el ordenador (Puerto COM). Podemos consultarla en el sistema operativo (Windows) desde Inicio>Equipo >Botón derecho>Propiedades>Administrador de Dispositivos> Puertos COM y LPT.