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# Como reemplazar las tuercas trapezoidales (XL)



[help.prusa3d.com/g546891](https://help.prusa3d.com/g546891)

Escanea el código QR para ver la última versión de este capítulo.

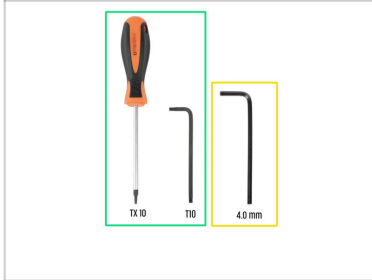


## PASO 1 Introducción



- ◆ This guide will take you through the installation of the **Trapezoid nut** on the **Original Prusa XL**.
- ⓘ Las siguientes instrucciones son compatibles con todas las versiones de las Original Prusa XL.
- ◆ Todas las piezas necesarias están disponibles en nuestra tienda [prusa3d.com](https://prusa3d.com).
- 📌 Ten en cuenta que debes iniciar sesión para tener acceso a la sección de repuestos.
- ⓘ This manual is for both trapezoid nuts on the XL printer. You can choose, which one you want to replace.

## PASO 2 Herramientas necesarias para este capítulo



● Para este capítulo, prepara por favor:

● T10 screwdriver / key

● 4mm Allen key

## PASO 3 Unloading filament



● If you have loaded the filament, unload it from the hotend. On the screen, navigate to *Filament* -> *Unload Filament*.

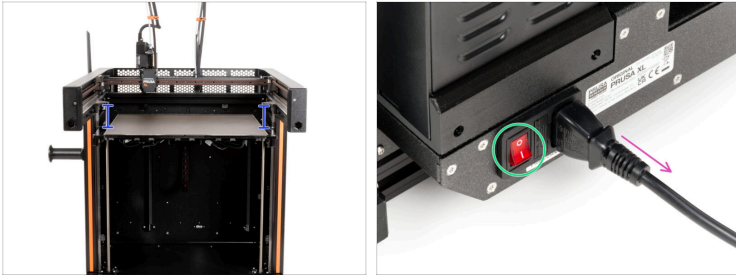


**ADVERTENCIA: El hotend y la base calefactable están muy CALIENTES. ¡No toques estas piezas!**

● Remove the filament from the hotend. It is necessary to completely remove it from the printer.

● Cooldown the printer. Go to *Preheat* > *Cooldown*.

## PASO 4 Printer preparing



- Auto home your printer. Go to *Control > Auto home*.
- Move the Z-axis 5 cm under the Nextruder. Go to *Control > Move Axis > Move Z*.
- Desde la parte trasera, apaga el interruptor de encendido (símbolo "O").
- Unplug the power cable.

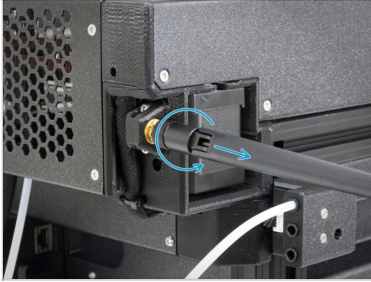
## PASO 5 Spool holder removing



- i Only if you going to replace the trapezoid nut on the left side of the printer.
- ◆ Turn the printer to the left side facing you.
- ◆ Using a 4mm Allen key, unscrew the M5x85 screw and remove the spool holder. Place it nearby. **We'll use it later.**

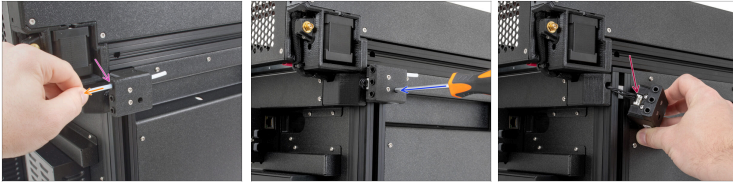
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## PASO 6 Uninstalling the Wi-Fi antenna



- ① Only if you going to replace the trapezoid nut on the left side of the printer.
- ② Unscrew the antenna and take it out. Place it nearby. **We'll use it later.**
- ③ Only if you have the antenna on the left side of the printer.

## PASO 7 Detaching the filament sensor



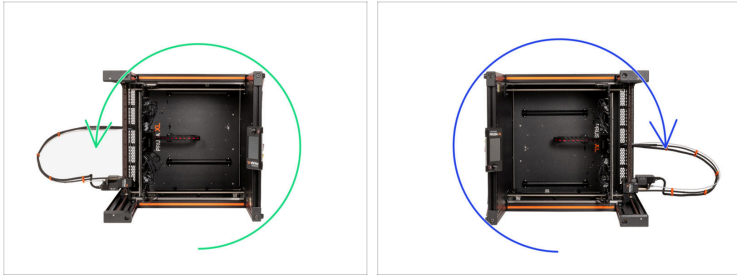
- i Only if you going to replace the trapezoid nut on the left side of the printer.
- ◆ Gently push the collet to the rear of the filament sensor assembly.
- ◆ Gently pull out the PTFE tube.
- ◆ Detach the filament sensor from the M3nEs nut using a T10 screwdriver.
- ◆ Disconnect the filament sensor cable from the filament sensor assembly and place it nearby. **We'll use it later.**

## PASO 8 Cable cover removing



- (i)** Only if you going to replace the trapezoid nut on the left side of the printer.
- ⬛** Turn the printer to the back side facing you.
- ⬢** Using a T10 screwdriver, remove two M3x8rT screws.
- ⬢** Retira la cubierta de los cables.
- ⬢** Leave the filament sensor cable free.
- ⬛** The printer is now ready to be turned on the left side.

## PASO 9 Preparing the printer: placing the printer



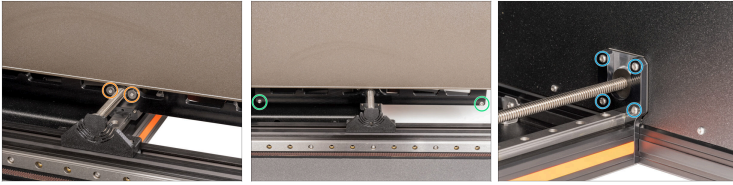
- ◆ Turn the printer to the left side.
- ◆ If you want to replace a Trapezoid nut on the other side, turn the printer to the right side.
- ⓘ The steps are the same for both replacements, go through the manual and replace the left or right trapezoid nut.
- ⚠ Do not move with the printer till you finish the instalation.

## PASO 10 Uncovering the Z motor cable



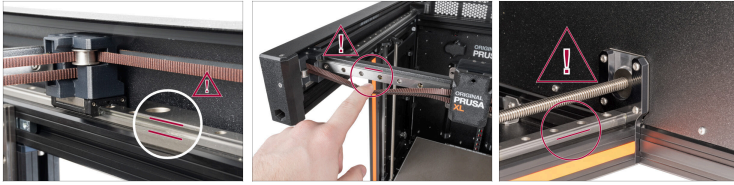
- Take a look at the bottom of the printer and locate:
  - Extrusion cover 243mm
  - Z-motor-cable-bottom-cover
- Remove both covers from the printer.
- The bottom of the printer is ready.

## PASO 11 Releasing the Z motor



- Using a T10 screwdriver, release and remove two M4x10rT screws. **Do not throw them out! We'll use them later.**
- Using a T10 screwdriver, remove two M3x12rT screws on a Bed-frame. **Do not throw them out! We'll use them later.**
- ⓘ Move the Bed-frame-mount-fixed (or Bed-frame-mount-rotary) into the middle of the linear rail.
- Using a T10 screwdriver, remove four M3x8rT screws to release the Z motor. **Do not throw them out! We'll use them later.**

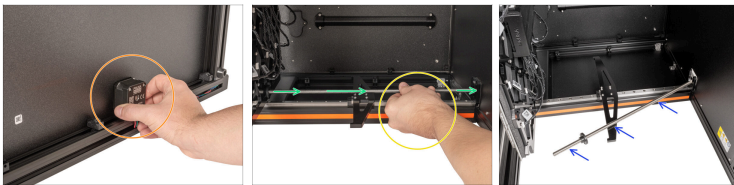
## PASO 12 CAUTION: Lubricant Handling



**⚠ PRECAUCIÓN: Evita el contacto directo de la piel con el lubricante utilizado para las guías lineales de esta impresora. Si se produce un contacto, lávate las manos inmediatamente. Especialmente antes de comer, beber o tocarte la cara.**

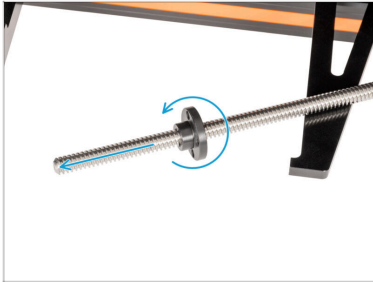
- El lubricante se acumula principalmente en los canales de los rieles lineales en los lados lineales.

## PASO 13 Pulling out the Z motor



- Grasp the Z motor with your hand. **Don't pull out yet!**
- Grasp the threaded rod with your second hand.
- Gently pull out the motor from the Bed frame.
- Place the threaded rod on a Bed-frame-mount-fixed.

## PASO 14 Quitando la antigua tuerca trapecoidal



- Manually unscrew counterclockwise the old trapezoid nut.

**⚠** Throw the old trapezoid nut in the trash to avoid confusion.

## PASO 15 Installing the Trapezoid nut: parts preparation



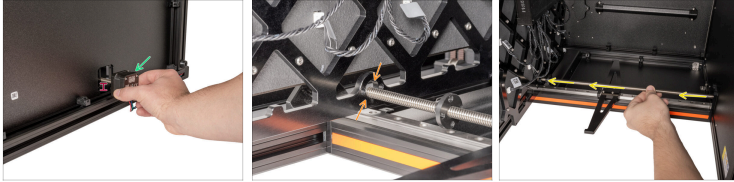
- For the following steps, please prepare:
  - New trapezoid nut (1x)


## PASO 16 Installing the Trapezoid nut: installing the nut






- Attach the new trapezoidal nut onto the Z-axis threaded rod, only a few centimeters in.
  - ⚠ **Double-check the correct orientation of the nut! See the picture carefully.**
- Screw the trapezoid nut at least 6 cm from the top of the Z-motor.

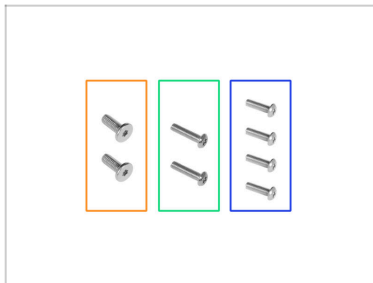
## PASO 17 Installing the Trapezoid nut: Z motor attaching







 **Mantén la varilla trapezoidal en el centro del orificio para el motor para evitar que se dañe.**

-  With one hand, take the Z motor so that the threaded rod is horizontally in the motor hole.
-  Using the second hand, insert gently the Z motor back through the Bed-frame.
-  Move the Z motor to the left side through the Bed-frame.

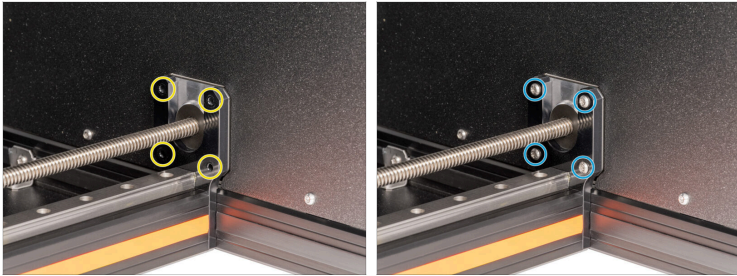
## PASO 18 Securing Z motor: parts preparation



 For the following steps, please prepare:

-  M4x12rT (2x)
-  M4x10rT (2x)
-  M3x10rT (4x)

## PASO 19 Securing the Z motor



- Insert four M3x10rT screws into the four holes in Z-motor-mount.
- Aprieta los tornillos con un destornillador T10.

## PASO 20 Securing the Trapezoid nut



**Do not move with the Bed-frame! Move only the trapezoid nut.**



From the bottom side of the heatbed:



Line up the threaded rod in the trapezoid nut with the threaded hole in the Bed-frame by turning it clockwise.



From the upper side of the heatbed:



Locate two holes next to the threaded rod.



**Be really careful, you can easily turn the screw and damage the thread in the trapezoid nut.**



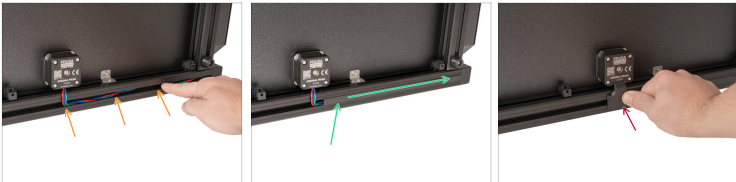
Inserta dos tornillos M4x10rT y apriétalos **suavemente** con un destornillador T10.

## PASO 21 Securing Bed-frame-mount-fixed



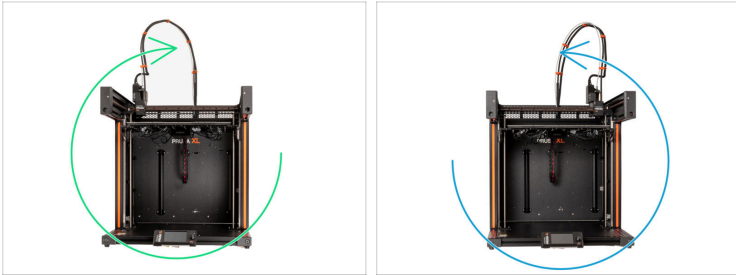
- Manually slide the Bed-frame-mount-rotary to the Bed-frame.
- Secure the Bed-frame-mount-fixed (or Bed-frame-mount-rotary) to the Bed-frame with two M3x12rT screws using a T10 screwdriver.

## PASO 22 Covering Z motor



- ⬛ Take a look at the bottom of the printer.
- ⚠ ¡Ten cuidado de no pellizcar ningún cable!
- Inserta el cable del motor en la extrusión. Asegúrate primero de que va perpendicular del motor a la extrusión.
- Inserta la cubierta de la extrusión de 243mm. Empújala y deslízala hacia la derecha.
- Aprieta la Z-motor-cable-bottom-cover contra el marco.

## PASO 23 Turning the printer



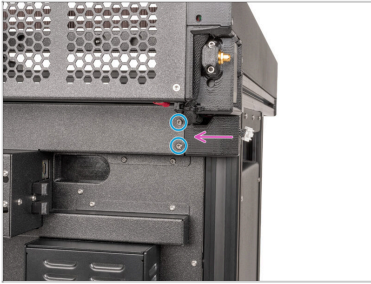
- Turn the printer to the right side on it's feet.
- If you replaced the Trapezoid nut on the other side, turn the printer to the left side on it's feet.

## PASO 24 Cable cover attaching: parts preparation



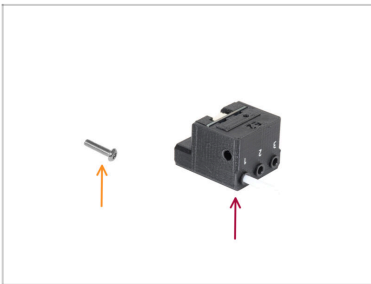
- For the following steps, please prepare:
  - Cable cover (1x)
  - M3x10rT (2x)

## PASO 25 Cable cover attaching



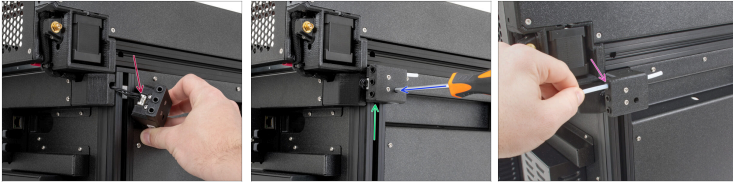
- Turn the printer to the back side facing you.
- ⚠ **¡Ten cuidado de no atrapar los cables!**
- ◆ Put the cable cover back in its position.
- ◆ Insert two M3x8rT screws and tighten them using a T10 screwdriver.

## PASO 26 Preparando el sensor de filamento



- **Para los siguientes pasos, por favor prepara:**
- ◆ M3x12rT screw (1x)
- ◆ Filament sensor assembly

## PASO 27 Colocando el sensor de filamento



- Connect the filament sensor cable to the filament sensor assembly.
- Mueva el conjunto del sensor de filamento a la parte superior de la extrusión y alinea la tuerca M3nEs de modo que quede alineada con la abertura del conjunto del sensor de filamento.
- Fija el sensor de filamento a la tuerca M3nEs utilizando el tornillo M3x12rT y el destornillador T10.
- Insert the PTFE tube from the extruder into to the first collet on the rear of the filament sensor assembly.

## PASO 28 Instalando la antena Wi-Fi: preparación de las piezas

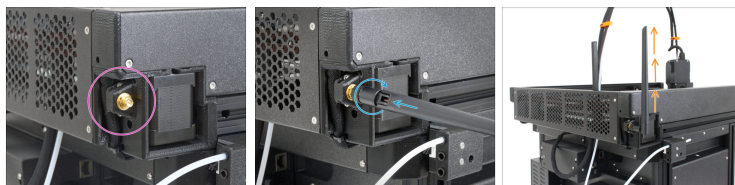


■ Para los siguientes pasos, por favor prepara:

■ Wi-Fi antena (1x)

ⓘ La Original Prusa XL se entrega con dos versiones de la antena Wi-Fi, cada una con una forma diferente. La funcionalidad es la misma.

## PASO 29 Instalando la antena Wi-Fi



ⓘ Only if you have the antenna on the left side of the printer.

■ Localiza el conector de la antena Wi-Fi en la esquina posterior derecha de la impresora.

■ La antena se puede girar y doblar en dos direcciones.

■ Recomendamos orientar la antena hacia arriba.

## PASO 30 Ensamblando el portabobinas: preparación de las piezas



● Para los siguientes pasos, por favor prepara:

- Spool-holder-slider (1x)
- Spool-holder-base (1x)
- Spool-holder-mount (1x)
- M5x85 screw (1x)

## PASO 31 Montaje del portabobinas



- Insert the spool-holder-base into the spool-holder-slider. The narrower part of the base should go in first. Push it all the way in.
- Coloca el spool-holder en el spool-holder-mount.
- Insert the M5x85 screw into the spool holder assembly.

## PASO 32 Montaje el conjunto del portabobinas



- Turn the printer to the left side facing you.
- Fija el conjunto del portabobinas a la tuerca M5nEs en la impresora. Ten en cuenta que hay un saliente en la spool-holder-mount, que debe encajar en la ranura de la extrusión.

## PASO 33 XYZ calibration

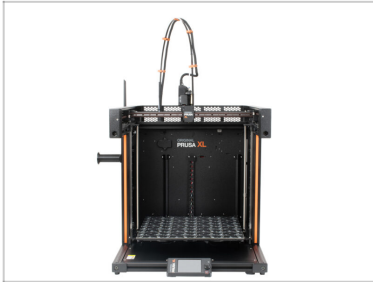


- Desde la parte posterior, enchufa el cable de alimentación.
- Enciende el interruptor (símbolo "I").
- Turn the printer's front side facing you.
- On the screen, go to *Control > Auto Home* and let the printer calibrate.

Como reemplazar las tuercas trapezoidales (XL)

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## PASO 34 Good Job!



Well done, your printer is ready.



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