

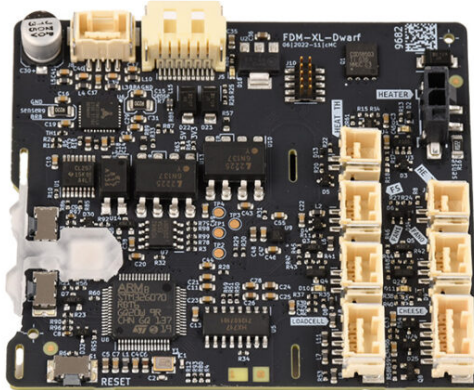
# Table of Contents

## How to replace a Dwarf board (XL single-tool)

.....	3
Step 1 - Introduction .....	4
Step 2 - Necessary tools .....	4
Step 3 - Unloading filament .....	5
Step 4 - Protecting the heatbed .....	6
Step 5 - Removing covers .....	6
Step 6 - Disconnecting cables .....	7
Step 7 - Removing the Dwarf board .....	7
Step 8 - Assembling the new Dwarf board .....	8
Step 9 - Connecting cables .....	8
Step 10 - Connecting cables .....	9
Step 11 - Connecting the main cable .....	9
Step 12 - Re-assembling covers .....	10
Step 13 - Final check .....	10
Step 14 - It's done .....	11



# How to replace a Dwarf board (XL single-tool)

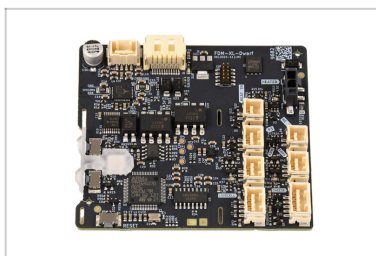


[help.prusa3d.com/g565590](https://help.prusa3d.com/g565590)

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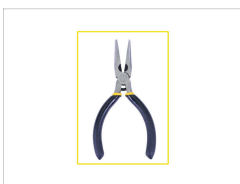
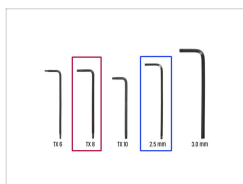
## STEP 1 Introduction



- ◆ This guide will take you through the replacement of a Dwarf board on the **single-tool version of the Original Prusa XL**.
- ◆ All necessary parts are available in our [eshop prusa3d.com](https://eshop.prusa3d.com).
- ⓘ Note that you have to be logged in to have access to the spare parts section.

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## STEP 2 Necessary tools



- ◆ **For the following guide, please prepare:**
  - ◆ TX 8 Torx key
  - ◆ Allen key 2.5mm
  - ◆ Needle-nose pliers
  - ◆ A cardboard box to use as a heatbed protection during the procedure. *Hint: use the Prusament box.*

## STEP 3 Unloading filament



- i** The following step is necessary only if you have filament loaded.
- ◆** Unload the filament from the hotend. On the screen, navigate to *Filament* -> *Unload Filament*.
- ◆** Cool down the printer to room temperature. On the screen, navigate to *Preheat* -> *Cooldown*.
- ⚠** Wait for the printer to fully cool down to room temperature before proceeding further.

## STEP 4 Protecting the heatbed



- ◆ Before you proceed, it is recommended to protect the heatbed.
- ◆ Make sure the heatbed is cooled down to ambient temperature. Place the empty cardboard box approximately to the front center part of the heatbed.

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## STEP 5 Removing covers



- ◆ Using the 2.5mm Allen key, loosen the M3x12 screw to open the dwarf-cover-door.
- ◆ Using the TX 8 key, remove the M3x8bT and open the dwarf-cover-back.

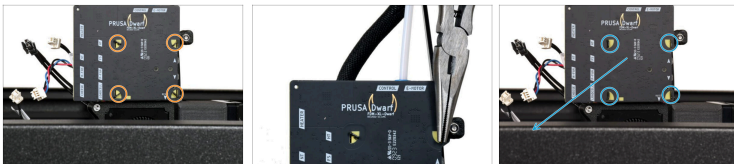
## STEP 6 Disconnecting cables



**⚠** Each connector has a safety latch. It is necessary to press the latch before disconnecting. Otherwise, the connector may get damaged.

- 🟠 Disconnect the main cable.
- 🟡 Carefully slide up the dwarf-cover-base.
- 🟢 Disconnect all the remaining connectors from the Dwarf board.

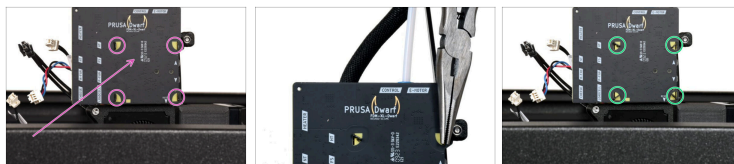
## STEP 7 Removing the Dwarf board






**⚠** Avoid scratching the board with the divots and with the needle-nose pliers.

- 🟠 Using needle-nose pliers, rotate the divots so that they are positioned vertically, and aligned with the holes.
- 🟢 Carefully slide the Dwarf board out.

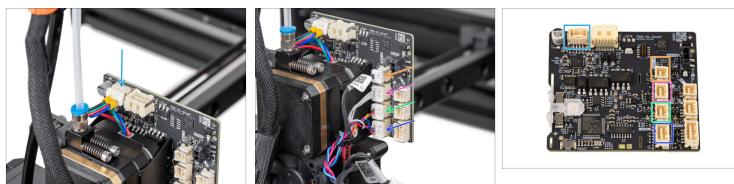
## STEP 8 Assembling the new Dwarf board











 **Avoid scratching the board with the divots and with the needle-nose pliers.**

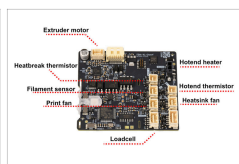
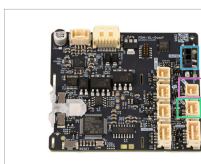
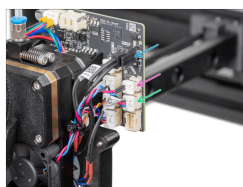
-  Carefully insert the Dwarf board through the divots.
-  Twist the divots using needle-nose pliers.

## STEP 9 Connecting cables



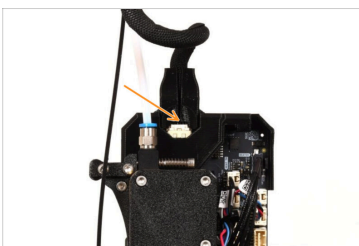
-  Connect the E-axis motor
-  The main cable will be connected at a later step.
-  The right-side area connectors have indications
-  Connect the following cables on the first column from the left, starting from the uppermost connector:
  -  HEAT TH: heatbreak thermistor
  -  FS: filament sensor
  -  FAN1: print fan
  -  Loadcell

## STEP 10 Connecting cables



- ◆ Connect the hotend heater cable.
- ◆ Connect the following cables on the rightmost column, starting from the uppermost connector:
  - ◆ HE TH: hotend thermistor
  - ◆ FAN0: heatsink fan
- ◆ Double-check that all cables are connected and in the correct position, apart from the main cable.

## STEP 11 Connecting the main cable



- ◆ Carefully slide the dwarf-cover-base onto the Dwarf board.
  - ⚠ **Avoid scratching or damaging the Dwarf board.**
- ◆ Connect the main cable from the top.
- ◆ Double-check that all cables are connected and in the correct position.

## STEP 12 Re-assembling covers



- Using the TX 8 key, tighten the M3x8bT to attach the dwarf-cover-back.
- Tighten the M3x12 screw and close the dwarf-cover-door.
- ⚠ **Avoid pinching any cables.**
- Remove the cardboard box from the heatbed.

## STEP 13 Final check



- To check if everything is connected correctly, navigate to *LCD Menu -> Control -> Calibrations & Tests*. From that menu, test the following:
  - Fan Test
  - Loadcell Test
  - Nozzle Heaters Test

## STEP 14 It's done



- ◆ That's it! You successfully replaced the **Dwarf board** on your **single-tool Original Prusa XL**.



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