Thrustmaster TFRP T. Flight Rudder Pedals Cleaning

Thrustmaster T.Flight Rudder Pedals (TFRP)...

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INTRODUCTION

Thrustmaster T.Flight Rudder Pedals (TFRP) rudder axis repair. The point of failure will be the potentiometer deep inside the unit.

There are quite a lot of screws to undo before being able to access the potentiometer.

With a good clean the pedals should be working well again (at least this was the case for me).

You can also download calibration software from Thrustmaster support to perform some calibration and detect the 'jitter' of your pedals.

https://support.thrustmaster.com/en/prod...

This is not the most thorough guide. There were some steps I didn't document very well, but it should guide you to be able to get to the potentiometer to attempt a fix.

If your problem is more related to the toe brake potentiometers, you can reference this guide: https://imgur.com/gallery/YoxjQAn

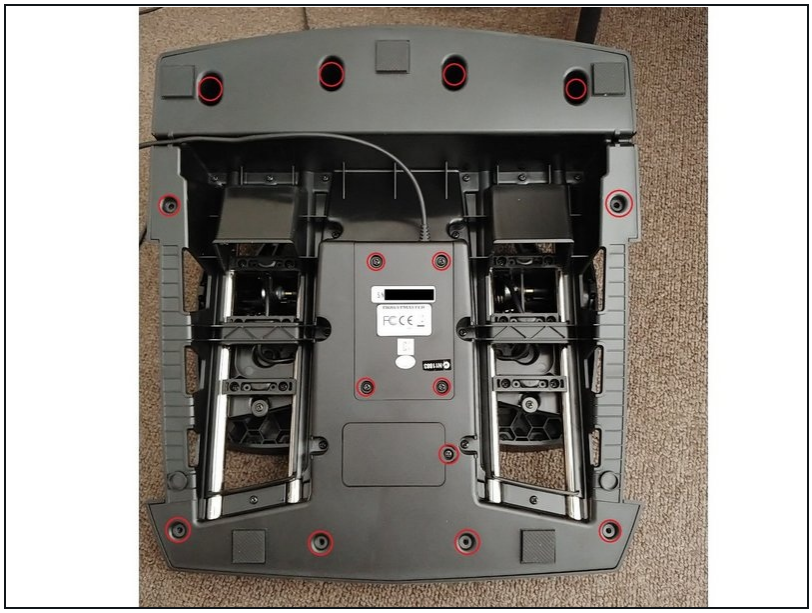
TOOLS:

- Philips Screwdrivers (one normal, one small) (1)
- Adjustable Wrench (1)
- Isopropyl Alcohol (1)
- Machine Oil (1)

PARTS:

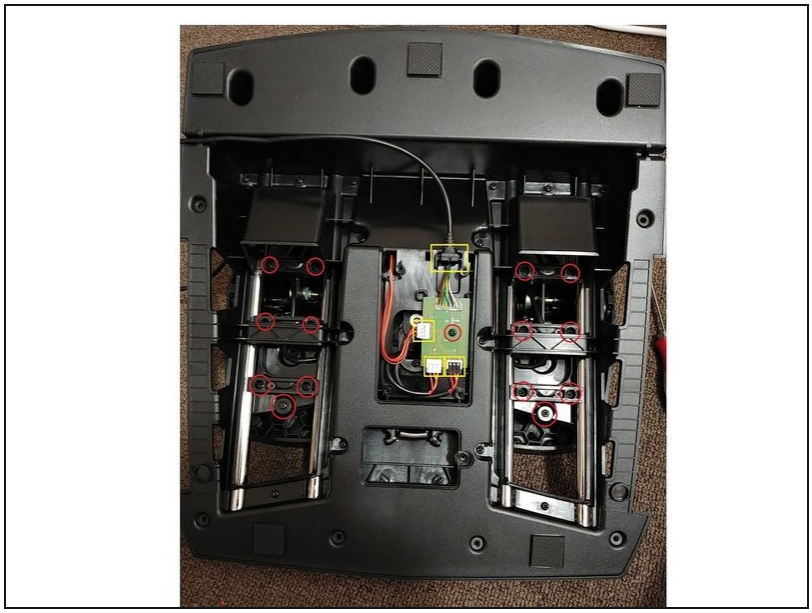
- Fanrui RK166N single and vertical F shaft potentiometer (1)

Step 1 — Removing base screws



- Firstly, flip the unit over so the bottom is facing up.
- Remove the four screws along the top edge (towards to toe of the foot rest).
- Remove the two screws on the outer edge below that and the four screws on the bottom edge.
- Also remove screw holding in the spring cover and the four screws holding the controller board (PCB) cover.

Step 2 — Remove PCB and rail screws

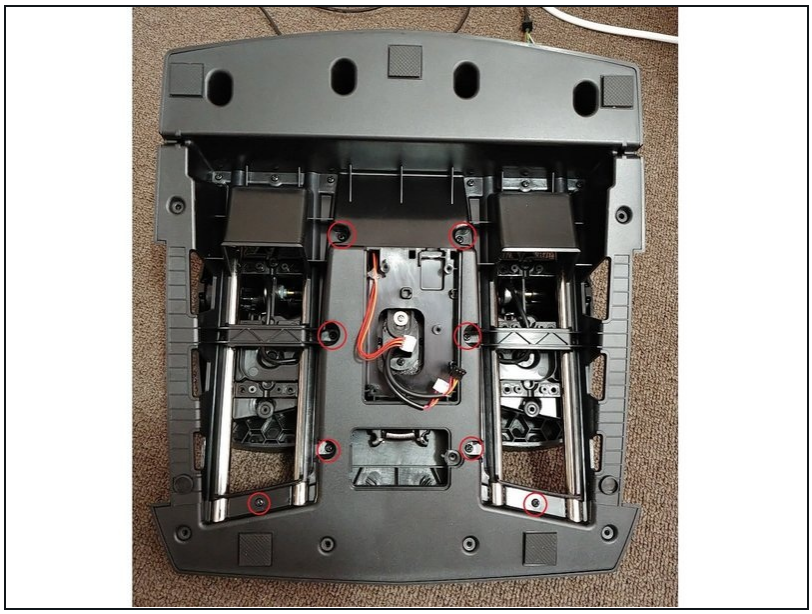


- Remove the single screw holding in the PCB.
- Unplug the three pins connected to the board (the one on the left is the potentiometer, and the two on the bottom are the foot pedals).
- Carefully lift the external cable up from the cradle. You will now be able to remove the PCB. Set the PCB and the main cable aside in a safe place.
- Remove the screws holding the foot rests to the rail on the bottom. There are six per foot rest.
- Under each pair of screws is a piece of plastic that you can also remove. Set these aside.
- If the two middle screws are obscured, just slide the foot rest up or down to get access to the screws.
- It may not be necessarry but I also removed the two screws at the bottom of the foot rests, just below the last set of screws.

Step 3 — ONLY DO IF REQUIRED - remove feet from fulcrum arm.

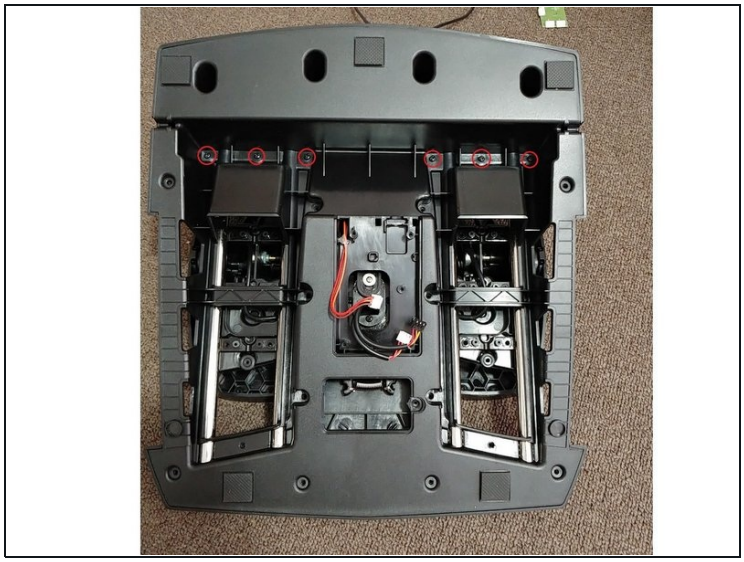
- **ONLY DO IF REQUIRED**
- This step is likely not required so only perform this step if it prevents you from getting further access in the following steps.
- I removed the screws holding the foot pedals to the fulcrum arms (with the TM logo). It was quite difficult to get the screws back in so I would only remove them if needed.

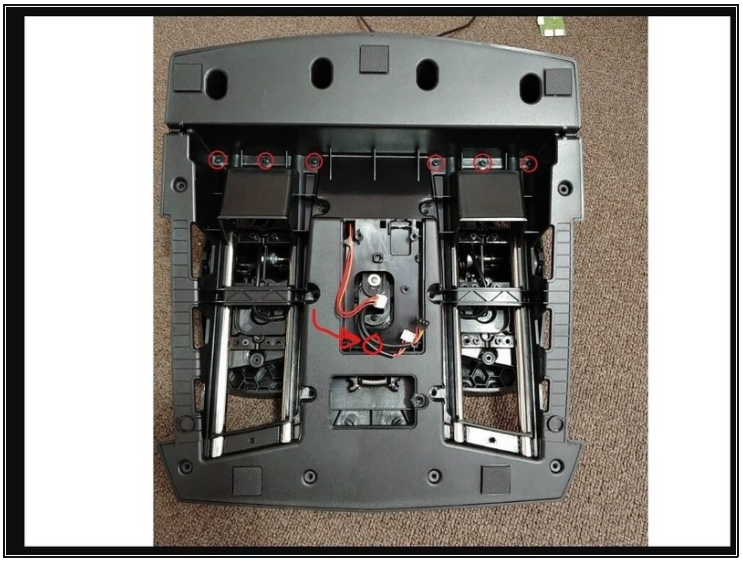
Step 4 — Remove inner rail screws



- Remove the six screws holding the left and right inner rails.
- Also remove the two screws at the bottom in the middle of each pair of rails.

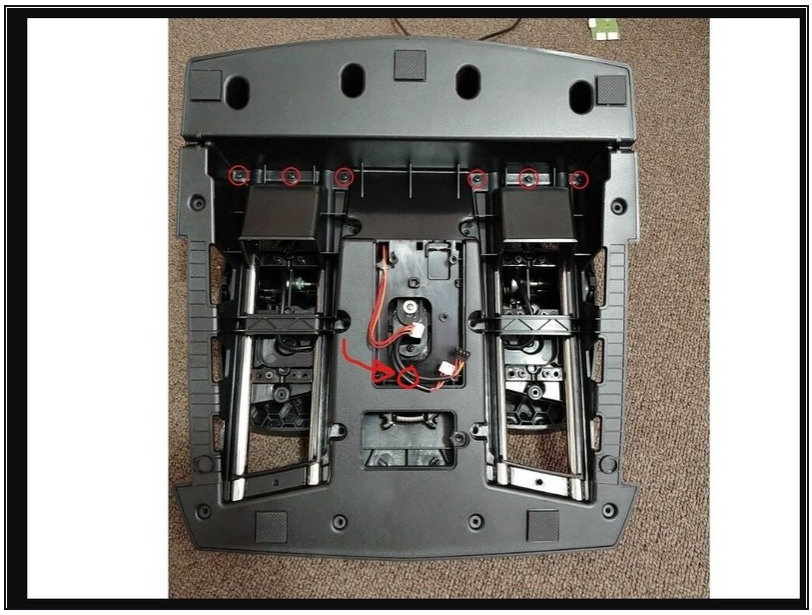
Step 5 — Remove remaining body shell screws





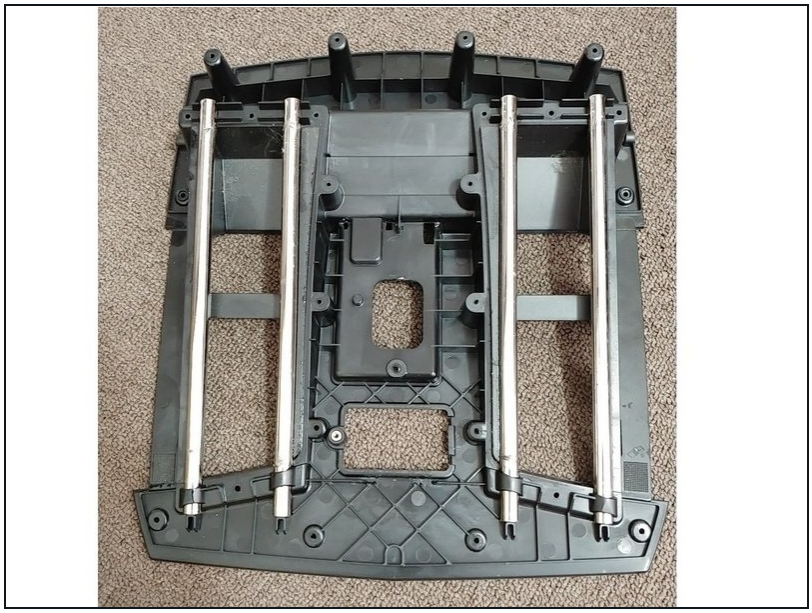
- Remove the six screws in the top recess.

Step 6 — Separate rail shell



- There is another screw hide under the black cables to be removed.
- You should now finally be able to separate the top and bottom shells.
- They should come apart fairly easilly. If there is resistance check that you have removed all the indicated screws in previous steps.
- If necessary remove the screws holding in the foot pedals in step 3 if this is the problem.

Step 7 — (optional but recommended) lubricate rails

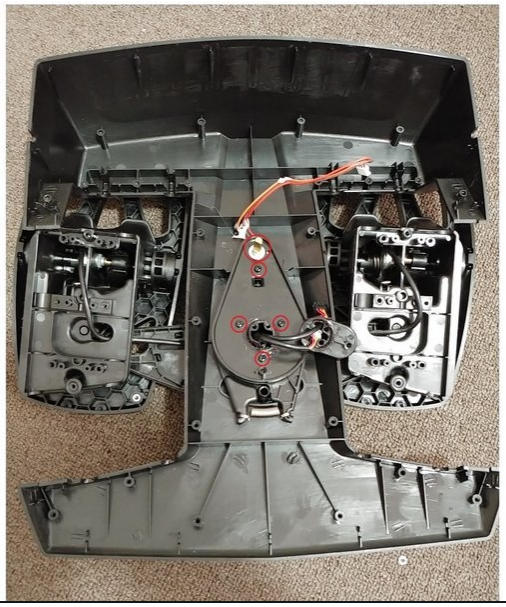


- It's probably a good idea at this stage to remove the metal rails from the rail shell and lubricate them.
- To remove the rails just pull them out from the top.
- I used singer sewing machine oil to lubricate mine but a similar product would also do.

Step 8 — Remove potentiometer arm and platform

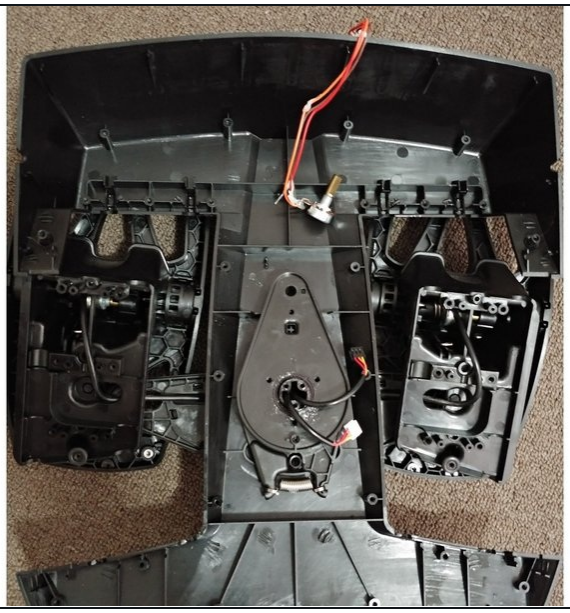
- Finally we're getting somewhere! You can start to see where the potentiometer is (circled in green). This is what we're trying to get to.
- Remove the single screw holding the arm to the platform screwed into the spring mechanism. You can then remove the arm attached to the potentiometer.
- There should be three screws (unfortunately some may be obsecured in the image by the cable) holding the little platform to the spring mechanism.
- Remove the platform. You may need to thread the pedal wires through the platform.

Step 9 — Remove spring mechanism screws



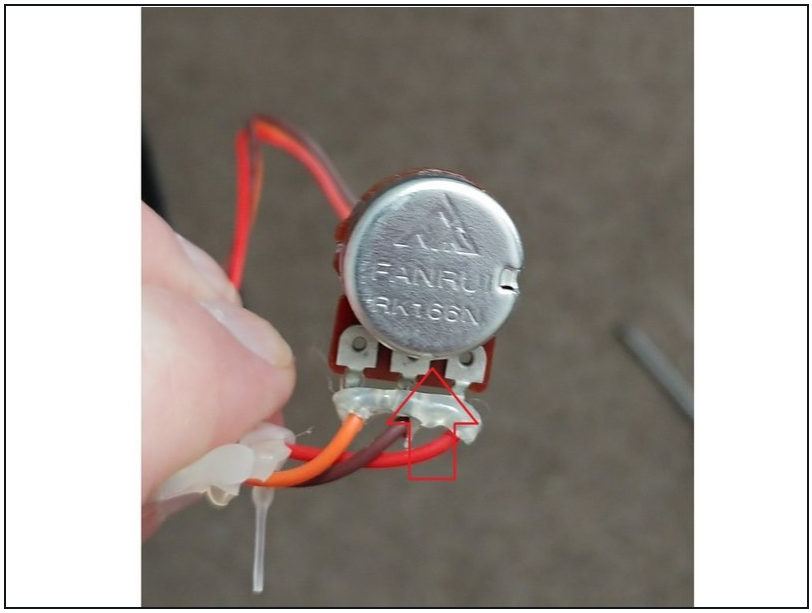
- Remove the four screws from the spring mechanism.
- From memory the potentiometer is held in place with a nut. Remove the nut so you can access the potentiometer.

Step 10 — Remove the potentiometer



- You should now be able to lift the tear-drop shaped spring mechanism up slightly to allow you to remove the potentiometer from underneath.
- Note that the potentiometer cable was glued down in my unit. I pulled off the glue so I could better access the potentiometer for cleaning.

Step 11 — Clean the potentiometer



- Now to clean the potentiometer. Some people suggest dismantaling the potentiometer itself to clean and using contact cleaner. I didn't do this. Instead I sprayed isopropyl alcohol into the small window towards the bottom of the pot (indicated by the arrow).
- Turn the pole from side-to-side around 20 times each side. I did this a couple of times to try to remove any gunk and dirt spraying more ispropyl alcohol as required.
- After ensuring the pot was dry I added a little bit of singer oil for some lubrication. I'm not sure this is the best thing to use so you may need to do some additional research.
- **I'm not an expert on cleaning potentiometers (this was my first time), so please do some research and follow the best advice.**
- The potentiometer in my unit seems to be a Fanrui RK166N single and vertical F shaft (rated at 50,000 rotations). Link to possible part: http://www.dgfanrui.com/en/rk166n-%E5%8D...

Step 12 — Prepare for putting the unit back together

- The images show the screws and parts I had laid out as I took the unit apart.
- If you have a glue gun handy you may wish to glue the potentiometer wire back into place. I didn't have a glue gun but found the nut seems to keep the potentiometer in place anyway.
- Remember to be careful when putting the pedals back on the rails. There will be a small opening for the cable to sit between the two bits of plastic. You will need to have this in place correctly. (Unfortunately I didn't take a picture of this).

To reassemble your device, follow these instructions in reverse order.