F-14 Flightstick BOM

Description

Recreation of F-14 flightstick for use in flightsims such as DCS: World. The flightstick is designed for (mechanically) mounting on either Thrustmaster Warthog, Virpil or my 3d printed base that can be found for free here: https://github.com/rdbeerman/Joystick-Gimbal. Connecting this grip to a gimbal and ultimately using it as a controller can be achieved is different ways, this guide is therefore only a suggestion.

I will continue to expand this document over time, but if you have any questions regarding this project the fastest way of contacting me is via discord: Activity#4914 or email: rdbeerman@gmail.com

Printing suggestions

The following print settings are suggested when printing any of my joystick grips, keep in mind these depend a lot on the specific printer used, it's tuning and the filament used so adjust accordingly. Good quality PLA is suggested but PETG will give better strength at the cost of minor flex in the final part.

Wall line count:	3
Top layers:	3-4
Infill pattern:	Cubic or Gyroid
Infill density:	>25% More will decrease flex at the cost of vastly increased printtime

In terms of support & orientation it is important to know the limits of your printer. For example on a well leveled bed with good adhesion a print orientation at a slight angle towards the back of the grip will result in a more clean result, see figure 1. If your printer has problems with bed adhesion, I suggest printing the grip with the orientation seen in figure 2. Use normal support with a grid pattern for support interface for either orientation.

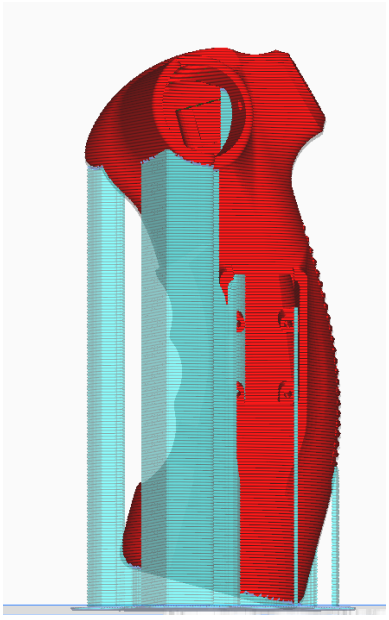

Figure 1. For good bed lvl.

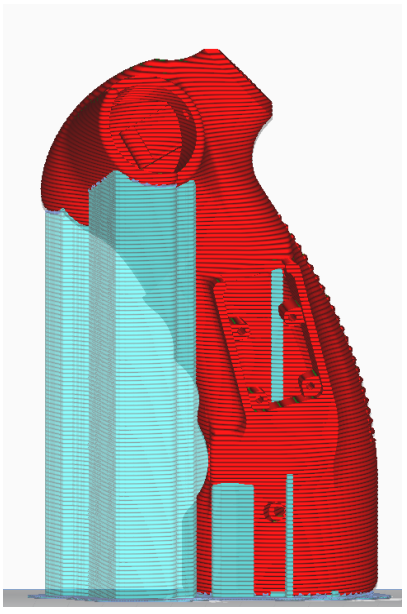

Figure 2. For poor bed lvl.

Bill of materials

Table 1: BOM Switches and hardware

Item	**quantity**	**link**
4-way switch (Trim switch)	1	Aliexpress link
Microswitch (Trigger stages, wpn depress)	3	Aliexpress link
Mini joystick (DLC axis)	1	Aliexpress link
Pushbutton 12mm diameter (2 red, 1 grey)	3	Aliexpress link
Rotary switch (wpn sel)	1	Farnell link
6x6x5 tact switch (wpn sel depress)	1	Aliexpress link
M2.5 x 12 bolts (DLC panel & trigger offset)	6	
M3 x 25 bolts & nuts (adapter mount)	2	
M3 x 12 bolt (wpn sel depress)	1	
Spring with roughly ~7.5mm outer diameter	1	

Electrical

Connecting the flightstick to a base can be done in many different ways, personally I used two 74HC165 registers in order to connect the flightstick through a 6 pin mini DIN connector such as this and this. The electrical scheme for a grip similar to this can be found below: