



How to

Make automated Engine Start Switches



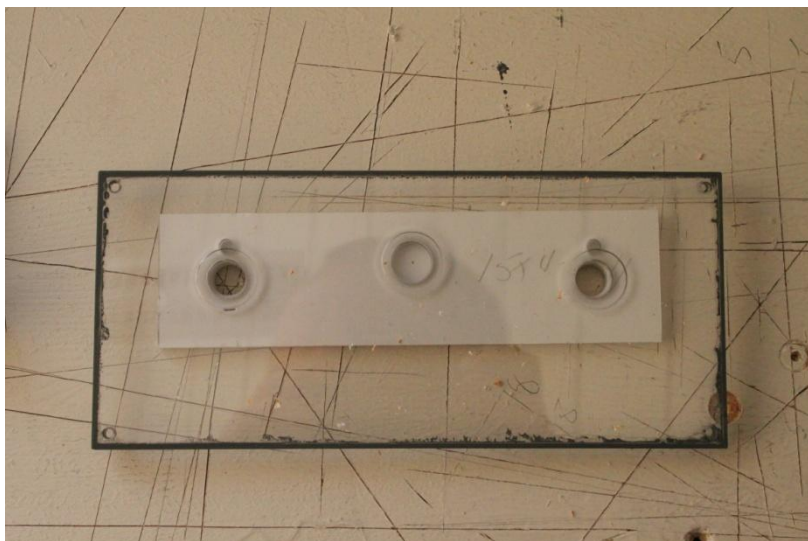
In the real cockpit the engine start switches returns automatically to OFF when you start the engines.

This can be done in your own cockpit quite easily with use of a servo engine.

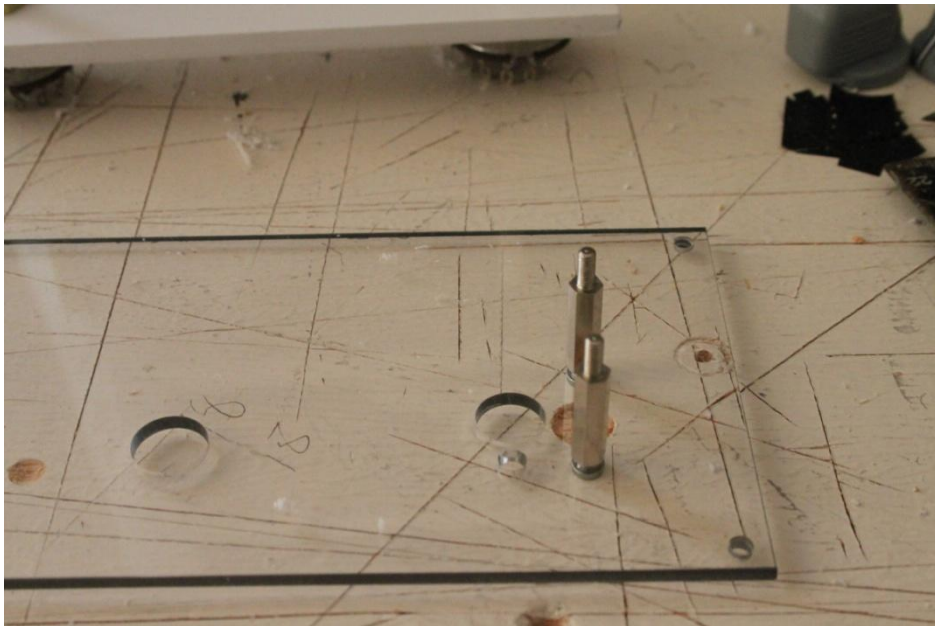
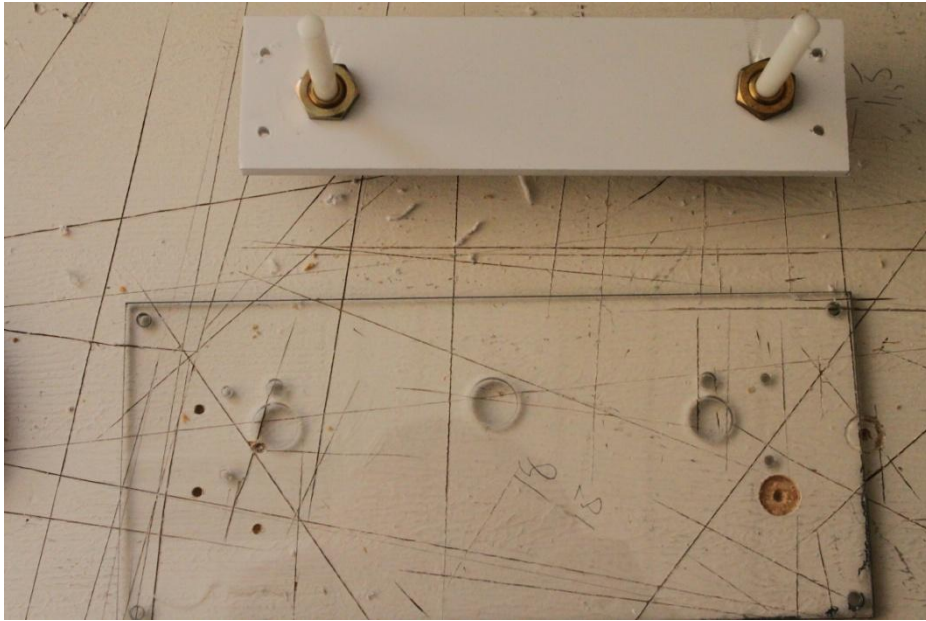
All you need :

- The panel with knobs
- Two rotary switches (30 degree index)
- Eg. a Hitec 311 Servo
- USB gauge controller
- Some parts from a hobby store (aircraft parts)
- Plastic plate
- SIOC Software

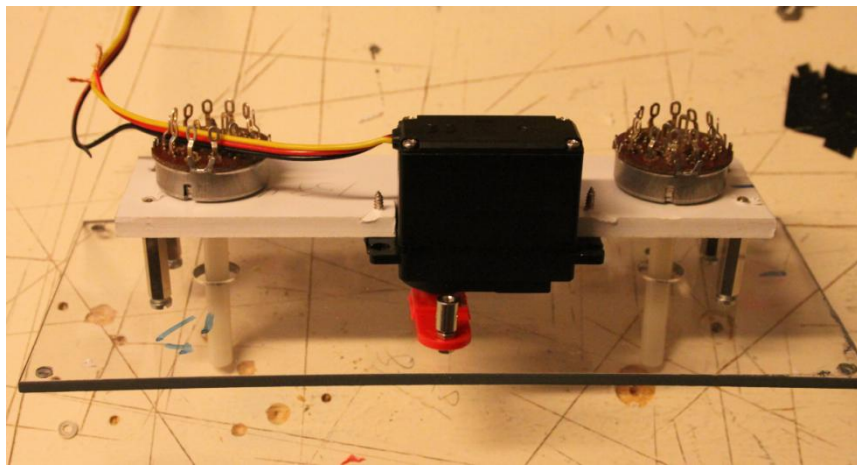
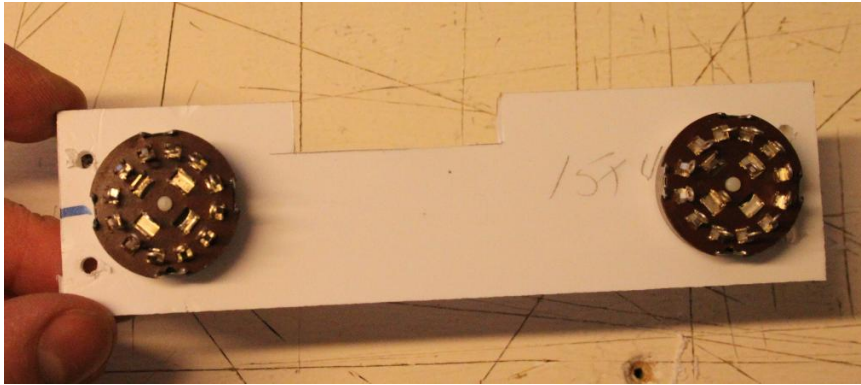
Start with cutting a plate to place the switches and servo on. Align it with the panel and make it a bit smaller.



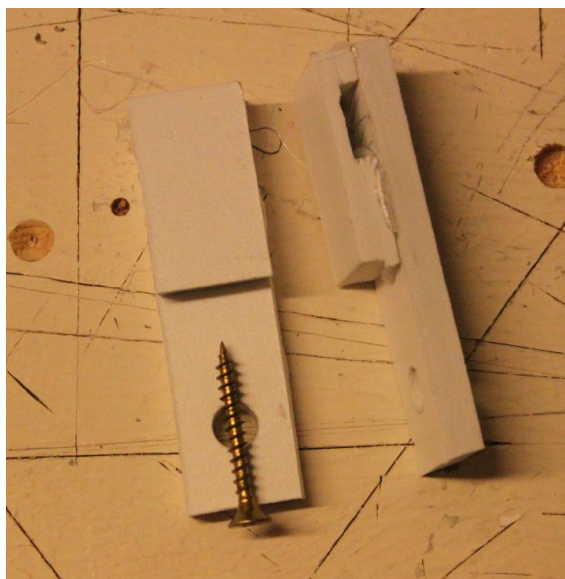
Mount the switches. Drill holes in the plate and the back plate of the panel so you can place some distance between the pieces.



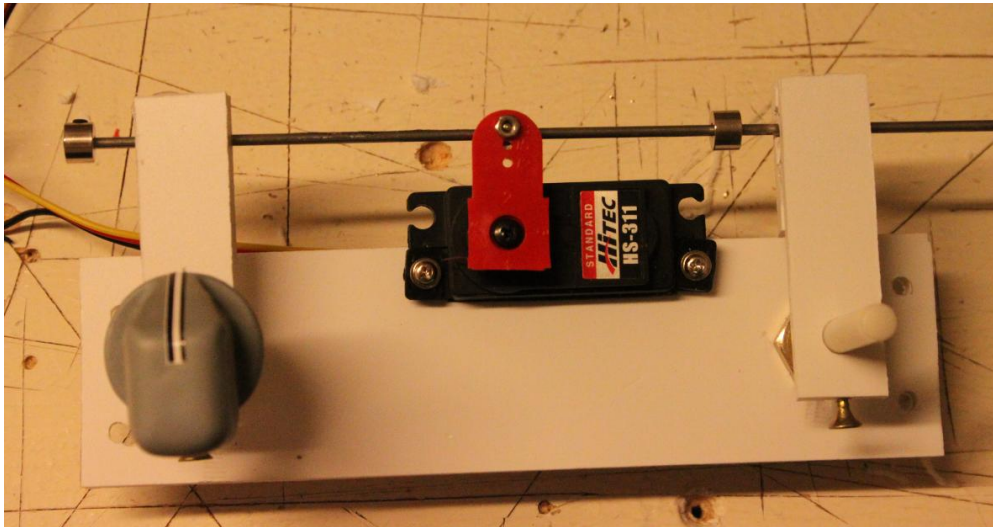
Cut a piece out so the Servo can be mounted into the plate. Make sure that turning point at the servo is in the middle.



Make two plastic arms with the right length. Put a top on each with room for the wire. Drill a hole in the button and trough the switch pole. Use a screw to fix the pole to the arm.

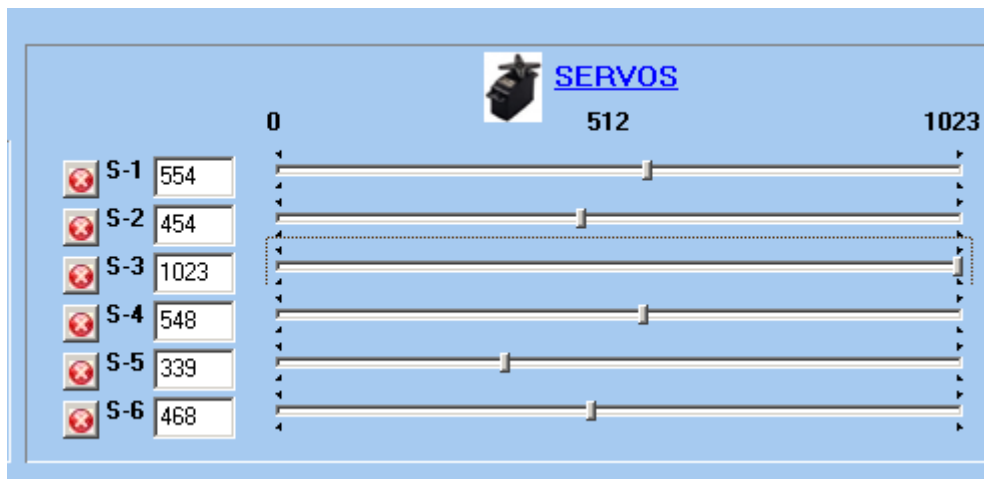


Use some 2 mm wire and some fixing rings to make the “stops”. When the servo are connected it will be placed in 45 degrees. When it’s activated it will return to the middle and pulling the arm back.



Now connect the servo to the servo controller.

Start the Opencockpits servo software. Select the output where the servo are connected to and find the values of the servo. Mine are 730 and 1023.



Open your SIOC file and add the servo:

```
Var 800, name engine_switch, Link USB_SERVOS, Device 2, Output 3, PosL 180, PosC 511, PosR 1023
```

Add these lines as well:

```
// Engine Start AUTO-OFF
```

```
Var 2000, name iniciaeng1, static, Value 0 // Set engine 1 rotary switch to OFF
```



```

{
  &eng1 = 0
  &servo1 = 1023
}

Var 2001, name servo1, static, Link USB_SERVOS, Device 2, Output 3, PosL 0, PosC 512, PosR 1023
{
  &servo1 = DELAY 730 ,50
  &eng1 = 0
}

Var 2002, name eng1, static
{
  IF &eng1 = 1
  {
    &servo1 = DELAY 1023 ,2500
  }
}

Var 2003, name iniciaeng2, static, Value 0 // Set engine 2 rotary switch to OFF
{
  &eng2 = 0
  &servo2 = 1023
}

Var 2004, name servo2, static, Link USB_SERVOS, Device 2, Output 3, PosL 0, PosC 512, PosR 1023
{
  &servo2 = DELAY 730 ,50
  &eng2 = 0
}

Var 2005, name eng2, static
{
  IF &eng2 = 1
  {

```

```
&servo2 = DELAY 1023 ,2500
```

```
}
```

```
}
```

Thanks to Gert !! <http://www.boeing737ng.net>

In the script, you will find two lines like this: &servo2 = DELAY 950 ,2500. For each starter switch you can find a line like that. The 2500 represents the 25 seconds, so here you can change the value to anything you want.

Save the file and make sure that SIOC are reading this.

Now start the ProSim Server module. Select config, and go to the Gates folder.

Enter these values for:

Starter 1 solenoid: IOCP 2002

Starter 2 solenoid: IOCP 2005

Starter 1 solenoid	+	IOCP	2002
Starter 2 pushback solenoid	+	[Not connected]	
Starter 2 solenoid	+	IOCP	2005

Select OK and TEST !

This works in my setup: Windows 7 64 DK, FSX and Prosim:737

This tutorial is made with my simple knowledge about SIOC, so please bear with me if there are some mistakes.

It's your own responsibility to connect things properly and use of this software. I hope that others can use this, and get the same positive experience of the gauges from Opencockpits.

You can download the necessary files here : [Link](#)

Happy flying

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