

Installing a Beeline GPS on a PPG (Paramotor)



A PPG (Powered Para Glider) or paramotor is a relatively new development and appear to be the simplest form of powered aviation yet invented.

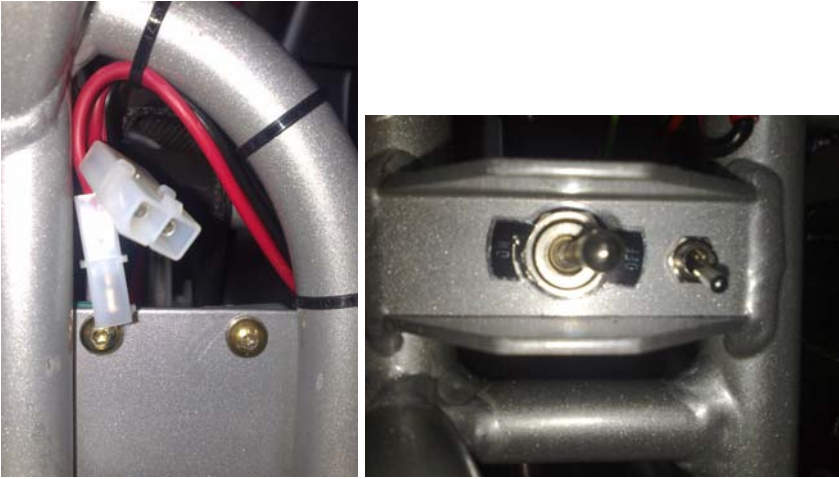
The pilots fly under a paraglide-type wing and “wear” a power unit on their back, consisting of a light weight engine and a propeller in a cage.

A Beeline Gps is a low power UHF APRS tracking module, which allows relaying and displaying GPS positions over radio and internet.

Physical installation

Power bus:

Standard electrical connectors and extra switch were added, connected to the 12V battery.



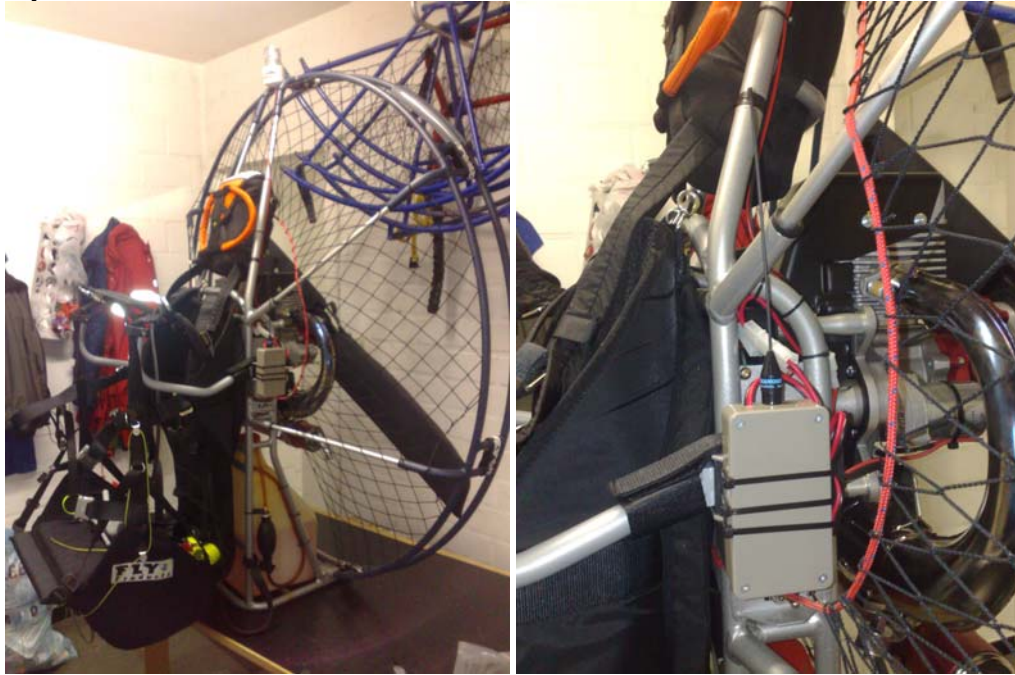
The built-in unit:

The gps antenna (white block) is offset to the bottom in order to be able to close the lid.

The power block on the RH side was a quick & dirty rip from a 12V to 5V USB car charger.



Physical installation:



Note: in order to have a better signal, the antenna should radiate downwards, which is not possible for practical reasons. Here the unit was mounted on the most convenient mechanical location.

Settings

COM port: COM1
Frequency: 430.512 Mhz
Output Power: 12 dBm
Pkt Interval: 60 secs
Store Interval: 60 secs
Model: BLGPS0
Version: 27
Ser#: 47
Battery: 5.50 V
ID String: ON5FLY
SSID: 7
Symbol: '
Enable Slotting:
Enable APRS Packet Format:
Position Logging On:
Enable Course/Speed:
Wrap Data Log:
Smart Logging:
Disable RF out:
Path: RELAY, WIDE 3 3
Low V: 3.40
Low V shutdown enable:
Messages: time: vch:2 vcl: 44 t2:0 t1:1 t0:39
Time: 0:01:57
COM Port Timeout (secs): 3
Buttons: Read, Write, Run, Clear Flash, Read Flash
Version: 22NW 3/25/2007
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Output power: 12dBm, set to maximum value.

Pkt Interval: Set to 60 seconds in order to achieve a decent track

SSID: set to 7, according to the APRS specs the value for aircraft

Symbol: the ' symbol displays a small aircraft

Path: RELAY,WIDE 3-3, in order to obtain some digipeating, might still be to aggressive

Smart logging was disabled in order to remove extra characters in the altitude field

Enabled Course/speed: must be on in order to include this info into the packet frame

Sample data: Radio output

ON5FLY-7>APBL10,RELAY,WIDE3-3:!iþû ß; i/ û û '÷ / i /-A=ýý¹þû
(this frame indicates that GPS lock has been achieved yet)

ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.06N/00310.13E'030/000/*A=-0004
ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.00N/00310.07E'357/000/*A=00007
ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.00N/00310.07E'215/000/*A=00009
ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.00N/00310.07E'243/000/*A=00009
ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.00N/00310.08E'004/000/*A=00007
ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.00N/00310.08E'327/000/*A=00009
ON5FLY-7>APBL10,RELAY,WIDE3-3:!5106.00N/00310.08E'234/000/*A=00009

Sample data: TH-D7 display



Sample data: Web based output (courtesy Aprs.fi)

