StripAlign 2.23 - DJI L1/L2 alignment instructions

1. Cut the LAS data file with a separate command (StripAlign needs one file per flight line)
2. Align the cut strips with two possible variants
3. Merge lines back together (if needed) with lasmerge

With multiple flights: cut LAS files **one at a time** using the related PO file (there can be multiple LAS files for a single PO file). Do not input multiple LAS files at once or the software might try to merge them while cutting, and the file name will be "out" instead of the original file name. Then, run the alignment using multiple **flights** (see tutorial about XML option files), or multiple **groups** (see manual).

CUT

```
stripalign -uav -cut -I DATA_DIR -i *.laz -po *.out -po_att 2 -O CUT_DIR -cut_dist 100
```

the **-cut_dist** option might not be necessary, in this example it helps remove strips shorter than 100 m.
By default, data collected during turns is eliminated, since many systems have an IMU that produces bad data during turns. To keep all the data, just add **-keep_turns** (please refer to release notes on Google user group for more info)

ALIGN

There are two variants for the alignment: rigorous method that takes into account the attitude data and the 90 deg mount of the sensor, or the older method, more approximate, using zero roll, zero pitch and constant heading.
Here are the commands to use **for a single flight** (we recommend the first one).

```
-uav -align -I DATA_DIR -i CUT_DIR\*.laz -O ALIGN_DIR -po *.out -po_att 2 -att_imu -mount mount.txt -CB35
```

OR

```
-uav -align -I DATA_DIR -i CUT_DIR\*.laz -O ALIGN_DIR -po *.out -po_att 1 -CB35
```

For multiple flights, use -i CUT_DIR_1*.laz -po sbet_1.out -i CUT_DIR_2*.laz -po sbet_2.out ...
where sbet_n refers to the sbet files for flight n (use original file names!) and CUT_DIR_n is the output foder where the flight n was cut with the -cut command.

Mount file if needed (mount.txt):

```
0 90 0
0 0 0
```

Option **-po_att** controls the processing of the attitude angles, use 1 to override (as explained above) or 2 to keep but ignore the sbet wander angle. Note that **-po_att 2** is not needed for ASCII files (but -po_parse is likely needed!)

Option **-att_imu** was introduced in version 2.22, and helps prevent gimbal lock during the inversion process of the alignment, which can be an issue with 90 deg mounts. Attitude angles are rotated with respect to the IMU so that they become small, and they are restored if the user needs a corrected trajectory file to be exported (witho option **-opo**). Note that unlike PO options, this is a global option and applies to all flights or groups.

In theory the rigorous method works better, since is more geometrically accurate and ignores the wander angle in the sbet file that was bogus on early versions of the DJI software. The method with the shorter command line completely ignores the attitude angles and assumes a constant heading for each flight line, which might be a very good approximation for some flights with straight lines when cutting with default options (drop data during turns).

For alignment only (not for cutting):

If the projection used is not UTM/meters, a WKT will be needed to specify it, with option **-wkt**
This option requires an argument, either one of the laz files or a separate ASCII OGC WKT file.
If orthometric heights are used, option **-geoid** is required, followed by one of the geoids provided (no extension)