SkyBean ChaseCam

User guide (rev. 1904)

SkyBean ChaseCam is an original product developed to record awesome photos and videos from behind pilot. Its shape is tuned to achieve as stable picture as possible without any electronic stabilization.

Assembly

To keep compact size of package for transport, chasecam comes unassembled inside box. Therefore, you will need to assembly your chasecam before its first flight.

content of the package

Head

Classic shaped Gopro camera (Hero 3-7 versions, **not cube**) needs to be secured inside head by white silicone ring. Place it around chasecam head, **into groove on head's back**. Cubic shaped Gopro cameras (Session 4 or 5) don't need silicone ring, camera is secured inside head by flexible flaps on the sides. Universal model of chasecam uses standard adhesive holder attached to flat base plate. You can place it after chasecam's assembly (see picture). We also recommend to use some kind of safety stripe in case of camera's holder failure. For this purpose, there are holes in universal platform.

| Hero 3, 4 | Hero 5, 6, 7 | universal platform |

Wings

Put 8 wings inside apertures in direction marked by little arrows on chasecam's head. Make sure that wingtip hooks are opened in heads apertures. If they won't open, help them by pen tip (see picture).
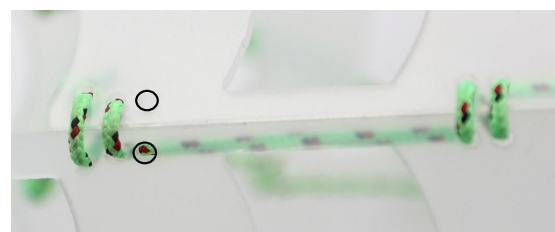

Binding

In the next step, you need to bind the wings. Hero 3, 4 and Session models – start binding at 2nd hole, leave 1st free. GoPro 5, 6, 7 and universal model – start binding in 1st hole, leave 3rd free.
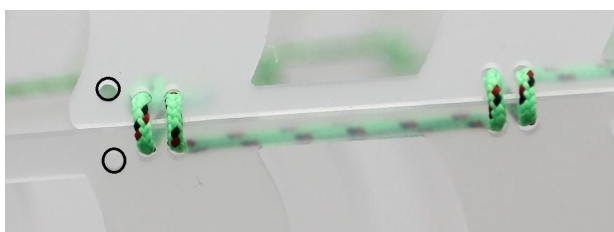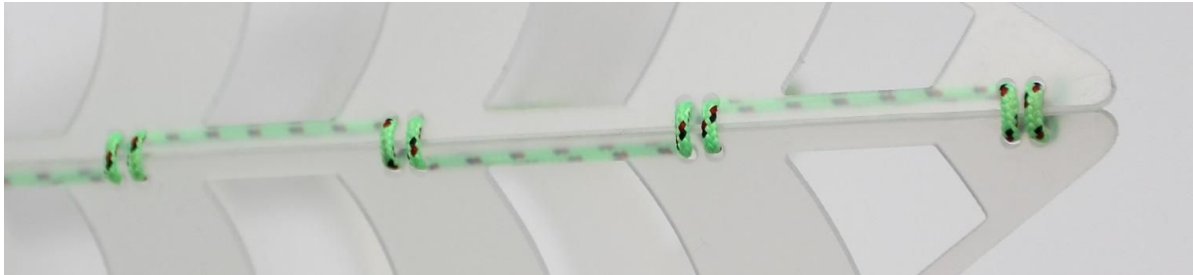

| Hero 3, 4 and Session | Hero 5, 6, 7 and universal |

Make a simple tight knot few millimeters from beginning of binding line and tighten it. Continue binding according to pictures. End of binding is also secured by simple knot, make it as close as possible to wing to keep binding tight.
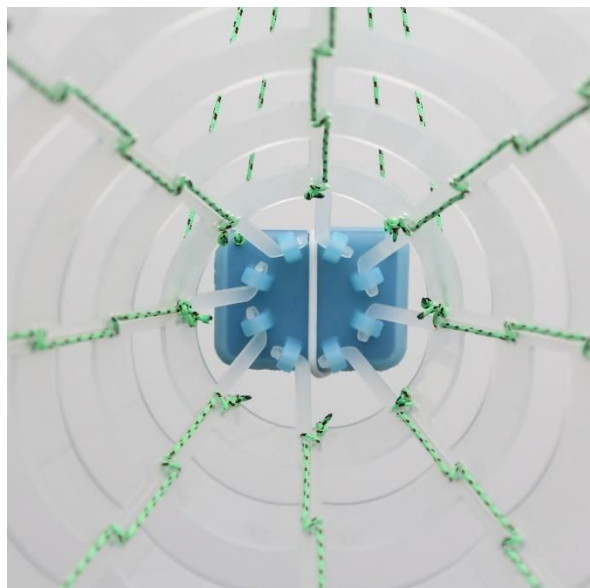

outer side of binding

inner side of binding

Try to bind chasecam tightly enough to achieve solid shape. If binding will be too loose, chasecam's shape won't have the best aerodynamic characteristic. We recommend to bind wings in 4 separated pairs and after connect these pairs. Push wings a little to stay against straight (each other), when binding them together.

Cut lines 1 cm behind the last knot and melt it a little with lighter (see pictures).
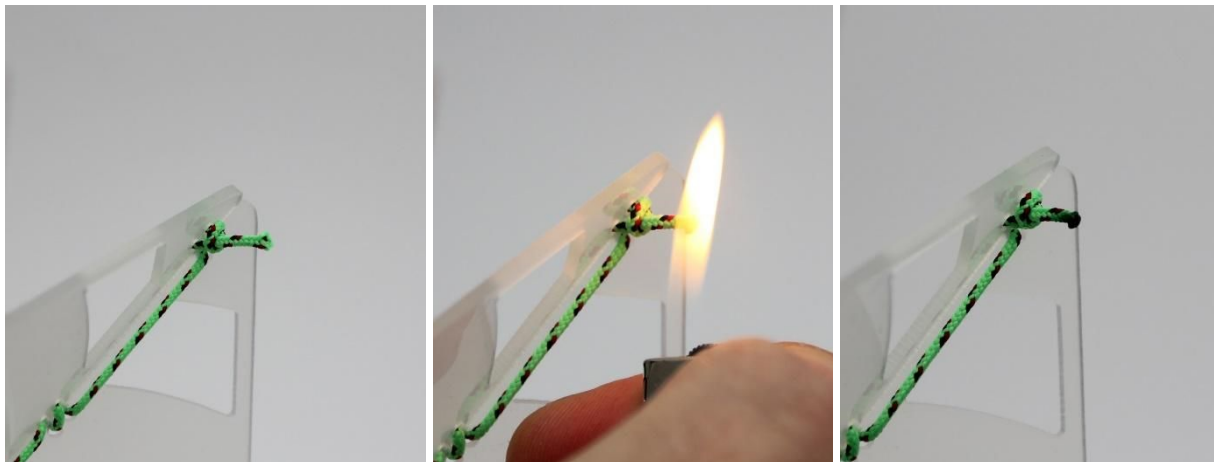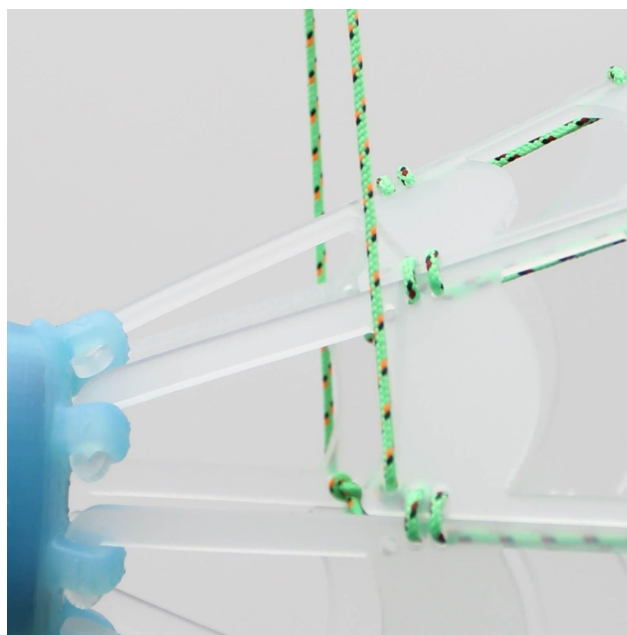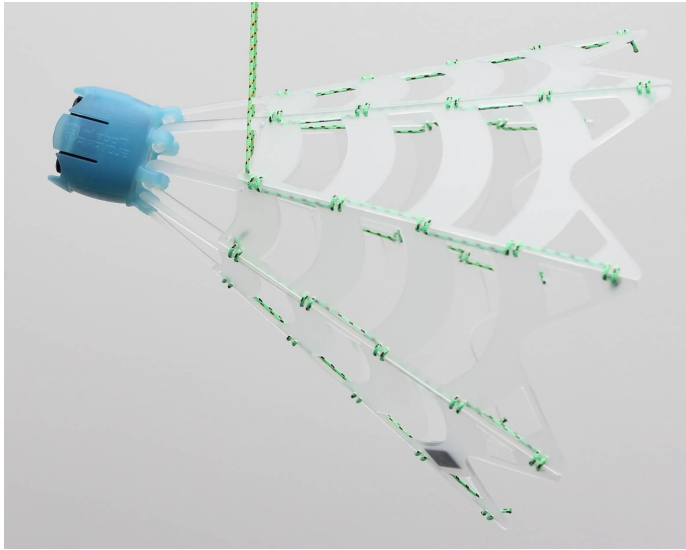

Main line connection

Hero 3, 4 and Session models use single main line (one connecting point on each side). Pass hanging line through bungee crimped loop and make simple knot close to it (1cm). Make sure that both ends of line have the same length.

Insert both halves from outer side into upper free hole on each chasecam's side and make simple knot from inner side and tighten it. Now insert camera into chasecam's head and check from front view if chasecam is in horizontal position. Evenly adjust – move one of knots. Due to slightly different weight of cameras, some adhesive weights are attached. Correct position of balanced chasecam is slightly head up (10-20 degrees). If chasecam is slightly head down or horizontal, put weight to flat end of bottom wing to achieve desired position. Don't worry, chasecam will be in horizontal position during flight.

Hero 5, 6, 7 and universal models use double line connection, there are two hanging lines, one of each side of chasecam, left and right. First attach a small metal ring to bungee rope. Insert loop into ring and drag it over. Rotate ring into position, where its ends sit under bungee rope loop (see red circle on picture). This will ensure smooth movement of hanging lines. Finally tighten bungee loop to hold metal ring in its position.

Place camera into the head and secure it with silicone ring. Make tight knot on the end of hanging line, insert line through upper free hole on wing from left inner side, and then go through small metal ring and through hole in chasecam's head from the left inner side. Finally, make tight knot on the end of line. Do this also for the right side. Chasecam can now move around crosswise horizontal axis, so produced drag during flight will balance it in perfect horizontal position. No adhesive weights are needed.
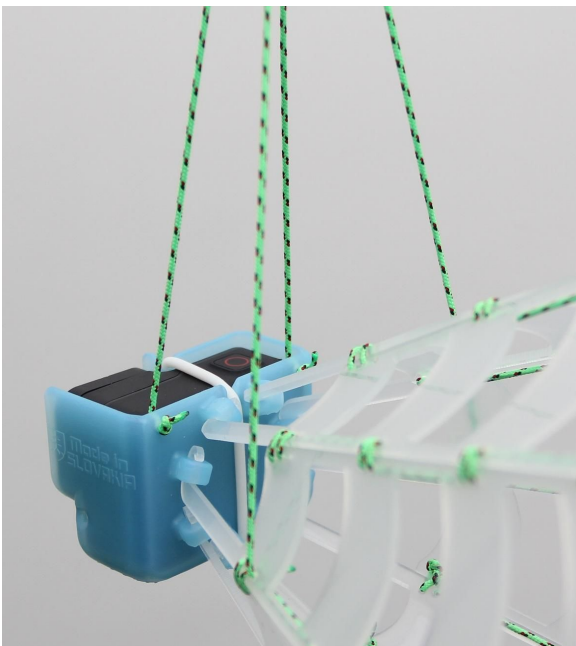
In case you will use very heavy camera with universal chasecam (e.g. Hero 7), place camera as close as possible to base platform. We recommend holder type shown on picture.

Mount and adjustment

Hang chasecam on middle eye on canopy's trailing edge, where brake line is connected. **Bungee rope length should be adjusted to achieve best possible footage**. We equipped SkyBean ChaseCam by 6m long bungee rope, which should be suitable for most glider types, you can adjust length with tiny black plastic piece (see tension fuse chapter). We recommend to start with line 1.5m shorter than brake lines and make several short flights during length tuning. The point is to tune the length of bungee rope to fit pilot at bottom and glider at top of the scene. You should avoid to let the ChaseCam fly in turbulence behind the pilot. **Particularly PPG pilots should give attention to avoid longer rope. There is real possibility that chasecam can hit revolving propeller during landing if rope is too long!** Use wide setting of your camera, we recommend 1440p or 1080s at 30fps.
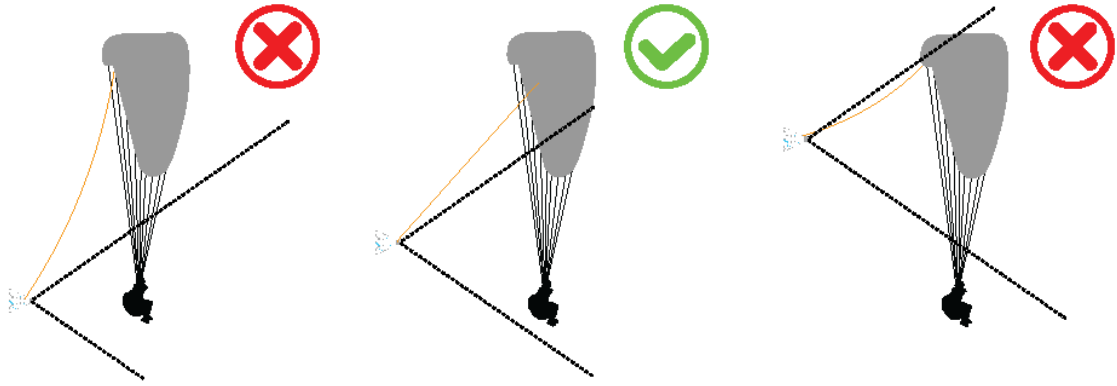
Launch

There are several options how to take off with chasecam. If you have Hero 3-7 version, **always use the rubber ring to secure camera** in its position inside of the head.

Assisted take-off - If there is somebody helpful available, this is the best option to get awesome shot during takeoff. The assistant should stay behind prepared wing. Some distance is required to ensure safety and also to fit you and the glider into scene. Wide angle setting on your camera will help. Assistant should hold chasecam lightly and after pilot rises the glider and moves forward, chasecam will fly away from assistant's hand. Be sure when asking somebody to assist, that she/he will hold the chasecam lightly and that she/he **will release** it!

Rocket launch – In perfect take-off conditions with light wind and suitable take-off surface (without sharp stones) you can use the "rocket launch". Place the ChaseCam facing by cameras lens to the sky, between pilot and trailing edge of the glider, about 1m from glider. It is recommended to place the bungee rope snaked or coiled between ChaseCam and trailing edge. You will get a very nice footage of rising glider above the camera and it will record the whole launch.

Harness launch – If you are not sure about smooth launch or if you are time stressed on take-off place by many pilots waiting for launch, use the harness launch. Prepare your glider and ChaseCam on the side of take-off place and snap it to Hook-and-Loop fastener on arm strap of your harness. After take-off, when you are a away from take-off place and you are safely sitting in the harness, detach chasecam from Hook-and-Loop fastener, smile to camera and let it fly out. This type of launch won't make a video during takeoff, but always remember - safety first!

Landing

If there is wind on the landing area and therefore it is possible to keep the glider up after landing, you can catch the chasecam into the hand, which is very impressive on video. Anyway, you can let chasecam land without any action. Please note that ChaseCam is made from durable material, there is always risk of damage if you are landing on rough place.

Bungee rope

The pilot must check the integrity of the bungee rope before each flight. Do not use it in case of any cracks, splits or scratches! Bungee rope core is made from rubber and it is sensitive to UV rays coming from sun, therefore in case of frequent use (50 h/year), it is recommended to change the bungee rope annually. SkyBean team is not responsible for loss of ChaseCam and camera while using worn out bungee rope.

Transport and storage

Assembled chasecam keeps its best flying properties when its shape is undeformed and symmetric. We recommend to use some soft stuff, like gloves or jacket to put them inside the chasecam and together put it into the helmet, when packing paragliding backpack. Bungee rope can be placed inside chasecam's body or wrapped around its neck. If you decide to wrap, please **don't tension** the bungee rope. Even small force used to wrap will be multiplied by number of turns and total force will deform wings and chasecam's head. This deformation can be harmful to your camera. If you recognize any problems while camera slide into or out of head – heat chasecam's head by standard hair dryer for one minute and eventually form it back in shape. Try to slide camera in and out again, it must slide easily. **Never use extended force to press camera into unheated deformed head, you can damage it!**

Tension fuse

Some pilots, particularly PPG or speed-ride ones, fly aggressively very close to obstacles, like trees, buildings or just to each other. In this case, there is a real danger that flying chasecam can stuck or tangle somewhere. For this reason, we include tension fuse, which holds chasecam safely during normal flight, but will break under extreme force and release stuck chasecam. In normal flight chasecam produces drag around 2.5N (10N at 100kph). We tested drag up to 200kph, where tension fuse starts to open at 20N drag. If you decide to use it, please disconnect two small keyrings close to attachment hook and place larger slender keyring between them (see picture). Please note, SkyBean team is not responsible if you will lose your chasecam with camera onboard when this tension fuse will disconnect chasecam from your glider.

Tips and tricks

Once you takeoff, you cannot touch your camera, so we recommend to use remote control during long XC flights. You will save power and you can capture just interesting and nice footage from your flight, e.g. 30s clips are a good choice. When you are getting closer to nice scene, give camera some time to wake up and connect to your remote control from power off state. If you want to get more from glider into scene, push speedbar. Increased speed will produce more drag, so chasecam will fly further behind you. Set camera to 1440p to get picture from whole CMOS sensor. You can squeeze the footage to 1080p by software during post processing.

ChaseCam head – IMPORTANT STATEMENTS

However ChaseCam heads are produced with the newest available technology of 3D printing, there are still some limitations. High temperatures above 40 °C (100 °F) causes loss of rigidity, but this is not harmful. On the other hand, freezing temperatures increases heads fragility, so there is risk of broken head while landing on hard frozen surface. Avoid the exposure chasecam's head to long-term pressure – **never leave the silicone ring wrapped around the empty head**. If head will be even though deformed, don't panic, it can be put back into correct shape by heating for a while by standard hairdryer (see Transport and storage chapter).

Production material for chasecam heads is cloudy colorless, slightly taking a yellow tone when exposed to sunshine. Therefore we mix a little amount of color pigment to original resin. Some little tone differences between individual heads are possible, because pigment is so effective, that we mix only several drops per liter.

Safety note

We spent hundreds of hours by development to reach the most stable chasecam behavior in the air. We tested it for several years during normal paragliding flight conditions without any dangerous situation. However, any official safety tests are missing (because there is no standard for testing), we did most of SIV maneuvers without any problem (you can watch the video on our youtube channel). However we cannot guarantee your inviolable safety and every pilot uses SkyBean ChaseCam at her/his own risk. No member of SkyBean team is responsible for non-standard situations or injuries. Responsibility for any damages or injuries to third parties is completely covered by pilot of paragliding glider while using SkyBean ChaseCam.

Contact information

If you have any doubts how to assembly or use SkyBean ChaseCam, please visit our YouTube channel at youtube.com/c/SkyBeanVarios

If there is still something wrong with the device or if you need more detailed explanation, please write us by email or contact us via email. Please share your experiences with us, we are looking forward to your feedback!

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