

# Mission Ridge Paragliding and Hang Gliding Site Introduction Checklist

Wings of Rogallo Rev 05/07/2020

The Mission Ridge flying site is located within the Mission Peak Regional Preserve and is sometimes referred to by that name or simply referred to as Mission.

## Site Introduction Checklist

Before flying at Mission Ridge, pilots should be briefed on the following topics:

- Signing in and signing out
- Driving up, keys, and locking gates
- Airspace and air traffic
- Launch guidelines
- Top landing
- LZ landing
- Known flying hazards
- Pack-up and break-down procedures

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## Map

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## Getting to Mission Peak Regional Preserve, and parking

Parking for Mission is available in the main parking lot at the end of Stanford Avenue. The lot is small and is frequently full, even on weekdays. Limited street parking is available on Vineyard Ave. on weekends and holidays. Street parking is allowed on the North side of Stanford Avenue on weekdays. Observe the posted No Parking signs and hours/days of enforcement. Plan to arrive at Mission early, in order to account for time to find a parking spot.

## Signing in and out

There is a lockbox with sign-in sheets at the East end of the Stanford Avenue parking lot. The code for the lockbox is: **1920** (it is also noted on the side of the box). All pilots must sign-in before flying, and sign-out when finished. Pilots who are hiking and flying should sign the walk-up log. Pilots who are driving up, or riding with another driver, should sign the drive-up log, which is stored in a separate locked compartment inside the box. Note that only keyholders can open the locked compartment containing the drive-up log; coordinate signing in with whoever is driving you up.

## Hiking to launch

Mission is a popular place for hiking and flying. Many paraglider pilots hike to launch. The most direct route is up the main trail (Peak Trail / Ohlone Wilderness Trail). There is no water available along the trail nor at launch. In the summer, conditions are often hot and dry; ensure that you bring enough water for the hike up, the flight down, and emergency rations in case you need to hike down. There are water fountains adjacent to the restrooms at the trailhead (Stanford Avenue parking lot).

## Airspace and air traffic

Pilots should study an airspace map before flying at Mission to familiarize themselves with the area, and to check for any TFRs (<https://www.skyvector.com> is a good resource. Click on Charts, TAC, select San Francisco TAC).

The bottom of SFO's Class B airspace (the altitude limit for paragliders and hang gliders) at Mission is 6000 ft. MSL, rising to 7000 ft MSL South of the golf course South of Ed Levin park, and to 8000ft North of the high-voltage powerlines to the North.

Aside from the altitude restrictions due to SFO's Class-B airspace, Mission is in close proximity to several smaller airports, as well as SJC and OAK international airports. There is a significant amount of general aviation and helicopter traffic in the vicinity. Pilots should always be vigilant and watch for other aircraft. It is the free-flight pilots' responsibility to see *and avoid*.

## Launch

The launch area at Mission Ridge is very large and free of obstacles, except for a few rocks and small shrubs along the hillside. A large windsock is installed at the launch area. The launch is rounded and pilots can launch to the NW, which is also the typical direction of the prevailing wind, and to the SW from the same launch. On days with strong wind, there is often a pronounced wind gradient and ridgetop compression. Under these conditions, paraglider pilots are advised to walk as far down the hill as is necessary to be able to launch safely. Later in the Summer, yellow star-thistle grows all over the launch area, and can tangle paraglider lines easily. Pilots should choose their launch spot accordingly.

Launching in NNW to N winds (almost 90 degrees cross to the right from launch) can be challenging for paragliders and more so hang gliders, but is possible. Under those conditions hang gliders may prefer to launch from down the hill to the right, due to its steeper slope, and favorable direction. Pilots should be extra cautious under these conditions, and be mindful of mild rotor coming off of the terrain features to the North, particularly if the wind is strong and stable.

## Top landing zone2

Top landing at Mission is usually a safe procedure if the conditions produce enough lift to allow pilots to get above launch; of course pilots should use their best judgement and only top-land if the wind strength and direction are reasonable, and if there are no pilots or bystanders in the way. The terrain features are rounded and typically do not produce significant rotor. The ideal top-landing approach and location differs between paragliders and hang gliders.

### Paragliders

Pilots should set up their top-landing approach on the small slope behind the flat area adjacent to the windsock, using S-turns to descend. Pilots should be prepared to overshoot their desired landing spot, or to make several go-around attempts.

### Hang gliders

Hang gliders usually land farther to the Southeast, in the flat area to the Southwest of the restrooms, South of the gravel road to launch. Extended periods of shade can reduce turbulence on approach, so waiting until the area has been shaded can make for an easier, less dramatic approach. There are two suggested approaches:

1. S-turns over the outhouse
2. Left 360s upwind of the desired landing spot, concluding with a downwind-base-final approach.

## Landing zone1

Bottom landing zone1 at Mission is very large, has a windsock, is mostly free of obstacles, and is typically easy for paragliders to land in, but challenging for hang gliders to land in, especially toplless, higher-performance gliders. Landing can be challenging in thermic conditions, especially for hang gliders. The wind speed and direction may change as thermals are releasing, or if there are dust devils in the vicinity (the lower LZ area is often a good thermal trigger mid-day). The typical wind direction in the LZ is from the NNW; however, pilots should be prepared for wind blowing from any direction, especially in mid-day thermic conditions.

Pilots should walk the LZ prior to flying, in particular, the area uphill past the windsock to observe that the viable landing area in the LZ extends uphill past the windsock but only to the Northeast of the windsock. Northwest of the windsock, the terrain drops off into a gully.

Under typical conditions, pilots are advised to execute a downwind-base-final approach, and should plan to land on the small up-slope bowl-shaped hill, in the area between the hiking trail and the windsock. This is the safest area to land in, has the smoothest wind and gradual slope, and is free of obstacles. The tree line to the Southeast of the windsock can produce some sink and minor rotor; pilots should ensure that they have enough altitude to safely clear the trees.

There are occasionally cows grazing in the landing zone. While most of the cows at Mission are tame and used to interacting with humans and seeing gliders, there are often mothers with calves, and occasionally bulls during breeding season. Pilots should plan to land in an open area of the landing zone that is not occupied by cows, and execute their landing approach accordingly, based on the wind conditions and terrain in the desired landing area.

There are some subtle differences in hazards and recommended landing approaches between paragliders and hang gliders, which are described below:

## Paragliders

In addition to the gully to the North of the windsock, the terrain also drops off gradually to the West from the windsock all the way to the parking lot. There can be rotor in the West side of the landing zone, downwind of the houses on the North side. If the wind is from the West, pilots must be careful to not overshoot their desired landing spot, since the terrain drops off to the West at a similar angle to the typical glide angle of most modern gliders. In this case, pilots should be prepared to side-hill land, or even land slightly downwind, in order to avoid overshooting the LZ.

## Hang gliders

Under typical conditions, when the wind is from the N or NNW, there are three recommended approaches:

1. S-turns over the trees downwind of the LZ
2. Left 360s upwind of LZ, concluding with a downwind-base-final approach
3. Right 360s upwind of LZ, concluding with a downwind-base-final approach

On final approach, ignore the windsock, and land uphill. If passing the windsock, go to the RIGHT of the windsock, and expect stronger wind farther uphill.

If the wind is from the South, the usual landing at the windsock that's used in NNW winds is likely in rotor. There are two recommended approaches for South wind:

1. Perform a downwind-base-final approach over the houses on the North side of the LZ
  - a. The downwind leg is to the North toward the houses at the edge of the LZ
  - b. Make a right turn, down into the bowl west of LZ
  - c. Land uphill into the wind, downwind of the gap in the eucalyptus trees
  - d. DON'T OVERSHOOT!
  - e. If you do overshoot, turn left, land uphill downwind
2. Perform a downwind-base-final approach over the houses North of the windsock

- a. Make a right turn and land above the windsock before the bowl to the South

## Packing up and breaking down

### Paragliders

Pilots may not pack up their wings in the middle of the landing zone. Be sure to clear the landing zone as soon as possible. The preferred pack-up area is adjacent to the hiking trail, since it is mostly free of yellow star-thistle, tarweed, and cow poop. Packing up here also ensures that the preferred landing area South of the windsock is open for other pilots to land in.

### Hang gliders

Hang glider pilots can walk their gliders to the main entrance and break down adjacent to the hiking trail beside the gate, in order to conveniently load their gear onto car racks in the parking lot, or break down in the LZ adjacent to the hiking trail. Pilots should ensure that they do not obstruct the main gate or hiking trail while breaking down.

## Typical Flying Conditions

Mission is flyable in WSW to NW winds. The ideal direction is W to NW. These wind conditions are present many days from March to mid-September. The typical daily weather pattern for Mission under benign conditions is for light and variable conditions to be present in the morning, thermic conditions to be present mid-day, and for a stable seabreeze to be present by mid to late afternoon, producing a mixture of ridge lift and thermal lift.

From Fall to late Winter, offshore wind patterns become more frequent. Mission is unflyable when the wind is strong from the North or Northeast. If the wind is softly blowing over the back, especially in the morning, the West-facing slopes often heat up enough by early afternoon to release thermals that will block the offshore flow, and Mission will become flyable for a brief window.

Mission can be a great place to fly in the evening, with smooth consistent Northwest winds, and soft embedded thermals.

## Flying hazard: South wind

When the winds at Mission are from the South, which can occur during pre-frontal conditions, or in the summer when there is a very deep marine layer and pronounced coastal eddy, the conditions at Mission can be turbulent and potentially dangerous. Mission will be in the lee of some of the ridges and spines of Mt. Allison. Flying at Mission is not advised under these conditions (flying at Ed Levin can be great under these conditions). Strong South winds in the landing zone can also produce rotor downwind of the eucalyptus trees

that line the hiking trail. Southwest winds are usually OK; however, there can still be some minor turbulence in the lee of some of the more prominent features.

## Webcam

A webcam is hosted at a local pilot's house, and it points directly at the Mission Ridge launch. It is publicly accessible, and can be viewed at <http://missioncam.wingsofrogallo.org>.

## Cross Country

Mission Ridge is an excellent site for cross-country flying. The best conditions for cross-country flying are post-frontal conditions with Northwest winds and a good lapse rate. Pilots should carefully study an airspace map before embarking on cross-country flights, since Reid-Hillview's (KRHV) and Livermore's (KLVK) Class-D airspaces are close to common cross-country routes.

Flights South to Ed Levin, Alum Rock, South San Jose, Gilroy, Hollister, and beyond have been achieved. Several cross-country flights have also been made to the North and Northeast under prefrontal conditions with Southwest winds aloft. Pilots have flown to Mt. Diablo, Livermore, the Altamont Pass, and out to the Central Valley.