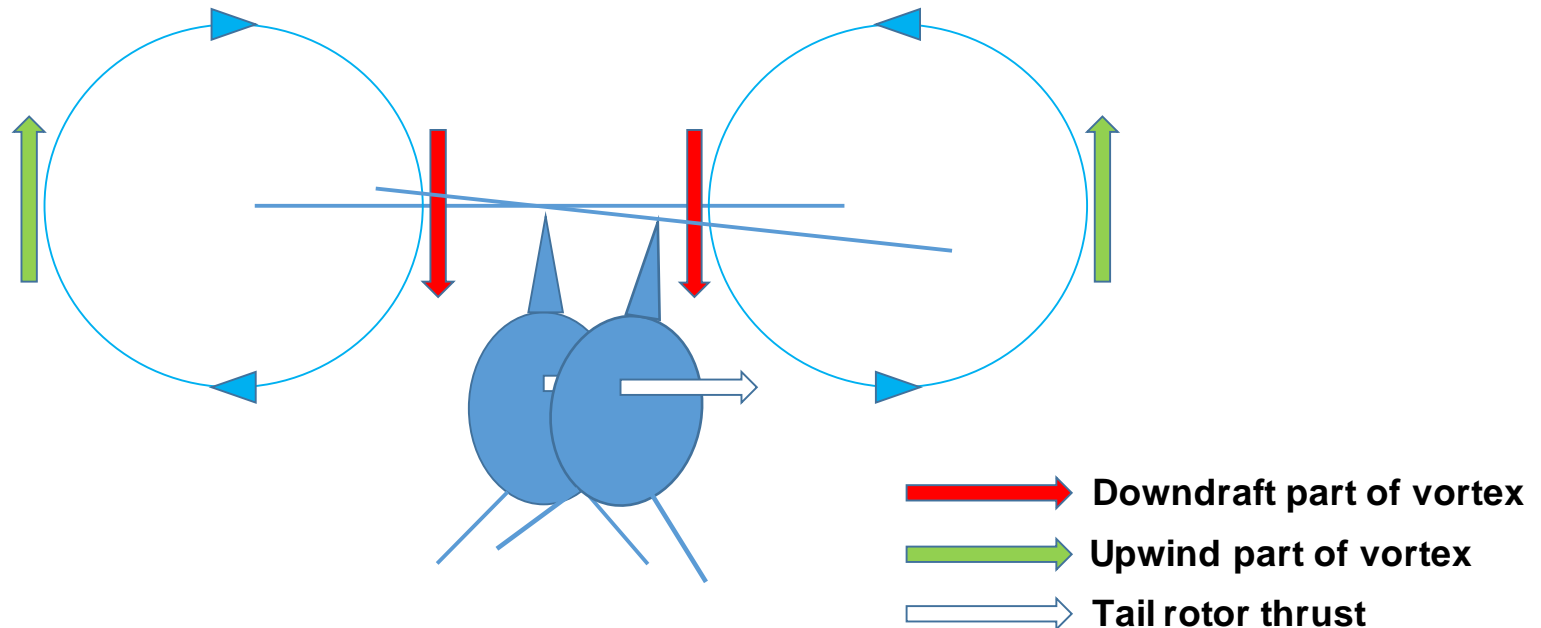


Vuichard Recovery Technique



1. Increase collective to maximum available power
2. Simultaneously apply power pedal to maintain heading and opposite cyclic (15-20° bank) to get a lateral movement (cross controls) for CCW rotor-systems escape to the right and for CW rotor-systems escape to the left
3. As soon the rotor reaches the upwind part of the vortex, the recovery is completed. Average height loss during this recovery procedure is 20-50 ft depending on the duration of the recovery manoeuver

To avoid all vortex ring state accidents, I highly recommend following:

- ✓ Train ab initio only the “Vuichard Recovery” Technique and this in the first hours of flight training (emotion drives automatic motion later)
- ✓ Equip all helicopter with IVSI Instantaneous Vertical Speed Indicator (eg based on GNSS datas)
- ✓ Equip all helicopter with a string in order to have a correct flow indication.
- ✓ Train vortex entry specially without vibrations.
- ✓ Train downwind approaches with special emphasis of a max. rate of descend < 300 ft/min @ low speed.
- ✓ Review the procedure in every skill or prof. check.
- ✓ All civil aviation authorities should review training manual of FTO`s
- ✓ All IFR rated pilots should train the Vuichard Recovery in simulated IMC condition or in FSTD

To avoid all vortex ring state accidents, I highly recommend following:

- ✓ All helicopter manufactures should publish safety notices.
- ✓ All simulator manufactures should review the behavior of the simulator in vortex ring state.
- ✓ Never use the “auto hover” modes out of flat areas, if the system takes the radar altimeter as refence.
- ✓ Be alert with multi-engines helicopters in HOGGE.
- ✓ Prohibit backwards CAT A procedures in POH`s
- ✓ Amnet asap the FAR and CS 27/29 manufactures must provide datas showing the rate of descent to enter in the VRS in function WAT.
- ✓ Insurance companies should offer special conditions if all pilots of this company performed an approved VRS and "Vuichard Recovery" training program.