

STUCK PEDALS

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Photos: Steven Kennedy

Stuck pedals are very different than Tail Rotor failure (ie...Blades Failure, gearbox Failure, etc) stuck pedals occur when one of the components that change the Pitch Angle of the T/R blades either fails and causes jams in the system or just simply jams due to a foreign object getting lodged somewhere in the system.

Consequently you can not change the angle of T/R blades even though you may stand on the T/R pedals.

Three types of of stuck pedals:

- 1- **Stuck Left pedal**
- 2- **Stuck Right pedal**
- 3- **Stuck Neutral pedal**

Every helicopter has a special Airspeed Value that at that airspeed the helicopter's Vertical Fin is most effective and consequently offloads the Anti Torque Pedals (under normal conditions taking into consideration wind, temperature, weight and elevation) I suggest that every pilot experiment and know this number for every type of helicopter that he/she regularly flies and let me call it V t/r. To find the V t/r you should do the following:

On a relatively calm day with a safety pilot on board (preferably a CFI), first hover and note the amount of left pedal used *(in counter clockwise rotating blades , on clockwise rotating rotor system it is just the opposite) gently transition to a normal take off and notice the airspeed value as soon as you are able to ease off of the left pedal, when you notice that you have to add pressure to the left pedal, pay attention to Airspeed Indicator: that is how you determine your Vt/r, you will want to verify this number by repeating these steps a few more time. If your Vt/r was 20 knots for that helicopter,

you now know that even in no wind conditions, your vertical fin is effective at 20 Knots airspeed, which assures you that you have some safety margin if you had to exercise this maneuver into the head wind. At this point you will want to record this number for future reference.

Several Cardinal rules applicable to almost any emergency:

- 1- Fly the helicopter, fly the helicopter, it is flyable even though it is not 100%
- 2- Do not make 2 emergencies out of one: for example, do not enter autorotation and do not chop the throttle for the above failure.
- 3- Reduce your airspeed to maneuvering or best autorotation speed (at this speed the helicopter is very friendly and comfortable)
- 4- Relax and calmly evaluate the situation.
- 5- Brief your passengers (if you have any) that you are going to make a run on landing at the next airport and ask them to remain seated upon landing and you will assist them out of the helicopter. Caution them about the blades.
- 6- Make your radio call to the nearest airport with hard surface runways, and fly toward that airport.

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