

Vertically Speaking

One Is (Not Necessarily!) the Loneliest Number

Omnipresence is the sole preserve of divinities; the rest of us have to work as a team. But for many, if not most helicopter operators, the pilot is a team of one. While this arrangement works well enough under normal circumstances, it can leave the helicopter pilot feeling a step behind in the higher workload phases of flight.

The fixed wing community, particularly the airline world, has worked tirelessly since the 1970s to embrace the concept of Crew Resource Management (CRM). CRM keyed on dividing workload among the crew and providing a system of checks and balances on critical decisions and processes in the cockpit. But CRM also focused on the use of all available resources to improve the safety margin of the flight.

But CRM's spread to the rotor wing community has been slower since, as noted above, the second set of eyes is often not present in a helicopter. Many of the concepts utilized in CRM have been successfully applied to single-pilot operations, which have been formalized in the development of Single Pilot Resource Management (SRM). SRM is defined as the art and science of managing all the resources (both external and those on board the aircraft) available to a single pilot prior to and during flight.

Solo, But Not Alone

One of the first tenets of SRM is preparation. Begin — well before the flight — by identifying all the resources you might need during the various phases of operation. For instance, list weather reporting stations, weather reports, and checklists that could be useful and ensure that they are easily accessible in flight. This process can be as simple as locating the Automated Weather Observing System (AWOS), Flight Service, and airport frequencies on or near the planned route of flight and writing them down on a knee board. Even if you already know the route cold, this simple step can dramatically reduce heads-down time should you need the information quickly. Another tip is to tab useful sections of the flight manual or the Airport/Facility Directory. The ability to rapidly retrieve the information you need improves your situational awareness and the safety of your flight.

Another key is use of checklists. Whether you're a student pilot on the first flight or a 20,000 hour ATP, good checklist protocol is a crucial and well-established way to improve safety. When flying single-pilot in a helicopter—a machine whose control requires use of all your limbs—checklists can be more challenging. Tips: Before you launch, arrange the cockpit to allow you to quickly read the checklist hands free. You might strap it to a knee board, secure it to an open (but easily visible) area in the cockpit or, if you have a passenger, ask that person to hold it for you. A key concept to keep in mind is that single *pilot* doesn't mean single *person*; your passengers are resources, too. Just be sure you brief those passengers from whom you expect assistance before you start the rotorcraft. If you don't have assistance, don't try to divide your attention at crucial points (e.g., pre-takeoff). Stop in a safe place and take the time to ensure that the aircraft is properly configured. After all, one of the goals of checklist discipline is to ensure that the limitations of human memory and the distractions inherent to the aviation environment do not lead to dangerous or damaging mistakes.

Another helpful SRM concept is to make a mental list of response points. Adapt the concept of V1 (V1 is the speed at which a pilot must make the continue/abort decision in many fixed wing aircraft during takeoff) from the air carrier world by creating "if this, then that" decision points: If (fill-in-the-blank) happens, then I will (fill-in-the-blank), under these circumstances. This kind of mental preparation primes the proper response and removes distractions for a pilot who is operating without the support of a crew. Having already made the decision on *what* to do, you can turn your attention and energy to getting it done.

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For more information

FAA Risk Management Handbook (FAA-H-8083-2)

<http://www.faa.gov/library/manuals/aviation/media/FAA-H-8083-2.pdf>