Safety Message

January 2020—Muscle Memory

Happy and safe new year to you. Last month I introduced myself in my new position as TCRCM Safety Officer. In this position I'll endeavor to remind, educate and coach safe operations. Safety concerns should not only be in the forefront of our mind when at the field but safe procedures need to be our habit; executed all the time through practice and developed by muscle memory.

We've all seen 3D pilots perform maneuvers with airplanes that frankly, airplanes are not suppose to do. One of the best 3D pilots I've seen Tim Hanstine AKA SupaTim - the owner of NorthWest RC. Tim can move effortlessly from helping a new pilot with a trainer to ripping up the sky with his Speed Freak Pantera at over 150mph and then on to a much slower Turbo Beaver flying full frontal 3D maneuvers – some which seem to defy the laws of physics and certainly the biology of reaction time. When asked how he does one maneuver or the other Tim frequently replies "muscle memory."

Muscle memory is learning a procedure by consolidating a specific motor task into memory through repetition. Once the motor procedures are consolidated into memory one no longer needs to "think about" or reason what to do in a particular situation. The adage "practice makes perfect" is a simplified description of muscle memory, but is fallacious. "Practicing perfection makes perfect" is a more apt adage. Intermediate RC pilots have experience with muscle memory. When we first begin flying we have to think hard about not reversing the direction we turn a model aircraft when it's moving toward us as opposed to moving away from us. Most lose an aircraft to two as a result of getting crossed up with directions, or "dumb thumbs". Through practice, the time eventually comes when the direction reversal problem disappears and we turn correctly regardless of travel direction; seemingly instinctively.

From the onset of training, it takes 2 to 4 weeks to develop the neurological adaptations to facilitate muscle memory for a single procedure – such as turning the correct direction when approaching oneself. Shorter intervals between practice sessions and greater practice duration improve the speed of muscle memory development as well as the persistence of the memory. As an example. When I was young I had opportunity to snow ski infrequently, so when I did go snow skiing I spent most of the day sliding on my lips. When I had the opportunity to ski everyday all day for a full week, I became very proficient and that proficiency persisted many years despite the fact that from that point on I had only occasional opportunities to ski.

The winter months might give us the opportunity to snow ski – but for many of us it's too darn cold to practice flying our models. Or is it? For many of us winter is the perfect time to practice; using a simulator. Most, if not all, of the best pilots I know use a flight simulator to some degree. The poster boy for learning by simulator is nineteen year old Jace "the Ace" Dussia; arguably the best RC pilot in the U.S. Every year from age 12 Jace has been an Extreme Flight Championship (XFC) finalist, At age 14, 16, and 19 Jace was the XFC Airplane Champion, and this year he was the XFCv2 Grand Champion. He has a HUGE list of other accomplishments in various classes of aircraft – but suffice to say this young man really knows his way around every kind of model airplane you've seen. Jace not only learned using a simulator, but practices with a simulator on a daily basis year-round.

Develop muscle memory and habits following field safety rules.

While using a simulator for developing muscle memory to competently performing basic flight procedures from taking off and landing to performing a lomcevak, I suggest you also develop muscle memory and habits following field safety rules. When using the simulator fly only on the far side of the runway. Don't taxi back into the pits. Verbalize the announcement of taking off and landing. (maybe just move your lips silently so your family doesn't laugh at you). Take time to practice with strong cross winds – from both directions. Make the simulation as real as you can so when the weather warms again and we return to the field you don't have to think about safely flying, it will just come naturally.