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Aviation Lingo

by Peter Handforth

(Additional information incorporated into the following article was supplied by Technical Editor Ed McCollough.)

When you take part in any sport or activity, such as flying Radio Controlled (RC) miniature aircraft, you have to learn the meanings of some new words. These notes are about a few of the terms used in miniature and full-size aviation.

The first successful controlled flight of a powered flying machine occurred in 1903. It was not until after the first World War that the word "airplane," or in Europe, "aeroplane," was used instead of "flying machine." According to the new Canadian Oxford Dictionary the word "airplane" means a "powered heavier-than-air flying vehicle with fixed wings." Personally I like to think of the early stick-and-wire contraptions as being flying machines.

Some aviation terms were borrowed directly from an older nautical terminology. A good example of this is the word "cockpit," which we think of as a place where the pilot sits in an aircraft, a machine capable of flight. Originally, a cockpit was a hole in the ground used for cockfights. Later the term referred to a place on a sailing warship where junior officers were quartered and wounded were treated. In smaller vessels, this was also the area from which the vessel was steered.

Many of the old lighter-than-air airships, another partly nautical term, had crew cars suspended below their main structures. The crew car was called a nacelle or gondola. Both of these words mean "a little boat," which is a very good description of what the crew cars looked like. Nacelle is a French word for "a little boat," and gondola is a type of a small boat used on the canals in Venice.

The main structural part of an aircraft's wing is called a spar, which is another nautical term. The mast, boom, and yards of sailing ships are called spars. The old English spelling was different; spar started as spere, meaning spear, later it became sparre, and then spar. Another part of an aircraft's wing is an aileron. The French word aile means "a wing," and an aileron is "a little wing."

Before the first World War, the main progress in aviation occurred in France. Because of this it is not surprising that many French words are still used to describe parts of an aircraft. The group of tail surfaces sometimes called the empennage stabilizes an aircraft in the same way that an arrow is stabilized in the flight by its feathers. The French word "empennage" means "a set of feathers of an arrow."

Most early flying machines had wire-braced wooden fuselages which were rectangular in cross-section. The four longitudinal parts of the fuselage were called longerons. Fuselé and longeron are both French words, fuselé is an adjective and means spindle-shaped and longeron means "an essential part of the frame of a structure member than maintains shape." In the 1920s some fuselages were built with metal tubing instead of wood. The fuselage skeleton of wood or metal carried the aircraft's mechanical loads and its cover of fabric or wood veneer had no structural purpose.

A great improvement in full-sized aircraft was the use of stressed-skin construction. A good example of this is the de Havilland Mosquito, which had a fuselage shell made from a sandwich of plywood and balsa wood. Many aircraft now use fuselages which have an outer shell of curved metal panels. If the whole mechanical load is carried by the outer shell this is called monocoque construction. A semi-monocoque fuselage has some load-bearing longerons and stringers. Monocoque is French for "a single shell," and stringer comes from an old European word meaning "a piece of material which ties things together." In miniature aircraft, the best example of a monocoque fuselage is one made from fiberglass. Usually this does not need any internal bracing. A stressed-skin fuselage for miniature aircraft can be made from balsa.

from News-O-Flyin'
The Desert Hawks RC Club
Jack Needham, editor
Lake Havasu City AZ

Castor Oil Trivia

Awhile back I ran across some interesting trivia about the castor bean. That is where the castor oil used in our model engine fuel comes from. The castor bean plant is native to tropical Africa. It is grown as an ornamental plant in gardens, sometimes as a houseplant, and also grown as a weed. It is an annual in the south and a perennial in the tropics. It may reach as tall as 15 feet outdoors.

You probably didn't know that the seeds from the castor bean plant, *Ricinus Communis*, are poisonous to people, animals and insects. One of the main toxic proteins is ricin. If the seed is swallowed without chewing, and there is no damage to the seed coat, it will most likely pass harmlessly through the digestive tract. However, if it is chewed or broken and then swallowed, the ricin toxin will be absorbed by the intestines. One seed can kill a child.

In 1978, ricin was used to assassinate Georgi Markov, a Bulgarian journalist who spoke out against the Bulgarian government. Markov was stabbed with the point of an umbrella while waiting at a bus stop near Waterloo Station in London. A perforated metallic pellet presumably containing the ricin toxin was found embedded in his leg.

Castor beans are pressed to extract castor oil which is used for medicinal and industrial purposes. You're likely thinking, "But what about the poison?" Well, ricin does not partition into the oil because it is water-soluble. Therefore, the castor oil does not contain ricin, provided that no cross contamination occurred during its production.

from the Turbulator
Glen Nesbitt, Editor
 2409 32nd Circle SE
 Rio Rancho, NM 87124

When Your Airplane Tries to Tell You...

Once upon a time your author had a new pattern plane. On the first few days of flying it, everything was fine. But one day, on the first flight, it required several clicks of down trim (odd . . .) after take off, and after each turn or maneuver, the pitch trim would be off again (VERY odd . . .). Only when it took full down stick to fly inverted (JEEPERS!) was your author smart enough to realize something was wrong. After landing, the problem was obvious: I had not bolted the wing to the fuselage!

But the plane DID "try to tell me." I just wasn't listening. Only new, tight-fitting wing dowels had saved the plane from destruction—it certainly wasn't the pilot! Recapping later, I thought of a number of things that would have caused similar symptoms; servo or servo tray loose, bad servo centering, broken elevator hinges, loose control horn, et cetera. The point is, ALL of those things are BAD! And with the plane not behaving properly, WHY did I keep flying??

Just suppose you're getting an occasional glitch from your radio, something that doesn't normally happen. This could be an antenna problem. It could be metal-to-metal vibration causing home-grown interference, or a loose crystal. Will any of these get better while you keep flying? And speaking of vibration, what if you start hearing it in the air? It's your plane talking to you—loose muffler, engine mount, worn wing dowel holes, loose cowl mounting. Again, such problems don't get better, only worse.

One more example—this has happened to all but the most careful pilots. Your engine goes lean and sags at the top of a loop. It's TELLING you that the mixture is too lean. But, you don't listen and keep flying. A minute later, while doing another loop, you're suddenly dead stick!

The sky gods know—we have enough problems that pop up suddenly, and we don't have any opportunity to prevent them. Other times the plane "tells you" that there is, or will be, a problem. Unless you really enjoy repairing or rebuilding—LISTEN! Cutting a hop short to check out a possible problem is much quicker (and vastly cheaper) than building another plane!

from Sam Says
Dennis Woodcock, Editor
 PO Box 6351
 Salinas, CA 93912-6351

If you push the stick forward, the houses get bigger, if you pull the stick back they get smaller. (Unless you keep pulling the stick back. Then, they get bigger again.)

Always remember, you fly an airplane with your head, not your hands. Never let an airplane take you somewhere your brain didn't get to five minutes earlier.

The Sport Flier

I know we always seem to be pushing for events and asking for help. All of this is fine if your interests lie within one of these areas. But, our sport is made up of many different facets. Let's not forget the sport flier in all of this. Who is he? What is he?

The sport flier, contrary to popular belief, represents the backbone, not to mention the bulk, of participants in this sport. He is just an average guy who just likes to get out every now and then and make a few laps, or do a few loops with his airplane.

His skills vary from beginner to very proficient. In fact, if he could devote more time to the sport he would probably be in competition. I personally have seen some of these guys and they are far better than some of the competitors I've seen. They buy the bulk of equipment from the hobby shops. Not the big buck or specialty stuff, but the day-to-day sales that keep the shops in business.

Why Sport Flying? Well this average guy is the one with the wife, kids, and yard work to do, as well as overtime and weekend duty. His opportunities to get out to the field are severely limited by these factors. When he does get the time to do what he likes, who can blame him for just wanting to get out and relax a little, fly around and talk with friends. I can't fault him for not committing to work events or participate in them because half the time he can't plan that far in advance. I have seen these people come out to the field and be asked to do something and have to decline or be pushed into making commitments that they can't keep.

The other point to bring up here is that sport flying is a lot like driving and playing golf.

Everyone with a car does not want to race it or put it in shows. And to prove this point, most people don't. Not everyone who plays golf wants to compete in tournaments. I guess the bottom line here is everyone is not committed to the same degree or have the same interests. Does that mean they are any less important. **No way!** So, the next time you hear "Aw, they're just a bunch of sport fliers," remember that not everyone is as perfect as you.

*from NOTAM
Bayou City Flyers
21215 Park Bluff Dr
Katy TX 77450*

2002 Club Officers And Coordinators

President:

Danny Stanton 664-8734

Vice President:

Clark Wolf 773-4270

Secretary:

Danny Watson 488-2179

Treasurer:

Bill Inman 779-2983

Board Members at large:

Stan Willems 772-9328

Jerry Sivin jsivin@aol.com

Bill Grove 955-0634

Newsletter Editor:

Werner Bruckner 664-2549

wkbruck@charter.net

Webmaster:

Danny Watson 488-2179

webmaster @rogue-eagles.com

Events Coordinator:

Roger Hebner

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Joe DeAscentis 774-9519

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Aviation 101

You know you've landed with the wheels up when it takes full power to taxi. Try to keep the number of your landings equal to the number of takeoffs. Flying is the second greatest thrill known to man. Landing is the first!

2002 Events Schedule

Puallup Trade Show
February 2nd & 3rd

Ashland EAA Demonstration
May 19th

Media Day
August 8th

Wet and Windy Fly-Fun
March 24th

Lee Renaud Memorial Contest,
June 1st

Rogue-Eagles 2002 Airshow
August 10th and 11th

Grants Pass Swap Meet
April 20th

Plat-I Float Fly
June 15th and 16th

OMPRA North-South Shootout
Pylon Race
August 24th and 25th

Spring Fun-Fly Contest
April 27th

Military Fly-In Contest
June 22nd

Fall Fun-Fly
October 12th

Float Fly at Lake Selmac
May 4th and 5th

Bid Bird Fly-In
July 6th and 7th

OMPRA Championship Pylon
Race
September 21st

OMPRA Spring Pylon Race
May 11th

Selmac Float Fly
July 20th and 21st

Builders Contest
May 18th

Kids Day at Hawthorne Park
August 3rd

Rogue Eagles R/C Club,
P.O. Box 8332
Medford, OR 97504

Stamp

To:

NEXT MEETING is Tuesday April 9th at the Lions Sight and Hearing Center, 228 N Holly, Medford, OR. Membership renewals will continue; bring your \$25 membership fee and 2002 AMA card. Also bring your show and tell projects.

Notice - Folks, if you renew your membership by mail, we've got to have some proof that your AMA membership is current. Please send a copy of your 2002 AMA card along with your \$25 renewal fee. Of course, we'd like you to attend the monthly meetings and update your membership at the same time.

Editor



Bill Olsen and his new Dave Patrick Extra 330L. This big beautiful plane is powered by a Zenoah G-45 and weights close to 14 lbs. Awesome looking plane Bill...great job!!!
