

Website of the Month

This month's website is about turbojet engines. Here is the link:

<http://www.turbo-jet.ch/angl/index.htm>

Do you have a favorite website? If so, let me know and I will put it in the newsletter. Favorite online store, how to build, how to fly, etc- send me the link! My email address:

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Airplane Trimming

I hope everybody survived the hurricane and are doing well. I was without power, phone, and internet for 3 ½ long days. That didn't leave much time before this month's due date for my article for Pilot Talk. That may be a good thing, because I found a great article on airplane trimming written by Dave Heape. See below:

Alan Fry
Training Coordinator

Airplane Trimming

One of the subjects that doesn't get much attention during the training phase is trimming an airplane. Generally, I trim the airplane at the master transmitter level and then direct the student to move trim buttons incrementally in order to trim the airplane on the buddy box. Sometimes, the buddy box is trimmed by another pilot while the student simply stands by. This actually gives the student almost no real knowledge or practice trimming the airplane him/herself.

An out of trim airplane can be flown successfully by an experienced pilot but it certainly performs better if it is in trim. Most students can not fly an out of trim airplane with confidence and should know how to adjust the trim when flying solo.

Trim simply means setting the control surfaces (elevator, ailerons, and rudder) so that the airplane flies straight and level "hands-off".

I generally start the trim process on the ground, making sure that the rudder is in a straight plane behind the fin. Generally, if the airplane is properly built/assembled, the rudder does not have to be changed. Also remember that for most trainers, the nose wheel and the rudder are linked, so they should both be aligned in the shop before coming to the field. Changes to the rudder will also change the "tracking" during taxi and take-off, so the best possible rudder/nose wheel trim in the shop will minimize problems at the field.

The elevator and ailerons should be set, either by gage or “by eye” on the ground to get the trim in the ballpark. Once in the air, unless there is some structural alignment problems (warped wing, for instance), only several “clicks” of trim should be required to make the airplane fly straight and level.

I usually fly the airplane into the wind at a throttle setting of about one half (or only high enough so that the airplane will fly well at that throttle setting) and then adjust the elevator so that the airplane flies flat, not climbing or diving. Remember that the airplane has more lift into the wind than downwind; fortunately, we also land into the wind, so that is the most important direction for trimming if there is a difference in upwind or downwind.

After the airplane flies level, it may be turning left or right and the aileron trim should be adjusted in order to make it fly flat; not rolling left or right. I usually do this upwind also, but I don't think it matters much if it is trimmed while flying downwind; however, I don't trim roll while flying crosswind, especially with an airplane that has dihedral.

Once the airplane is in trim, only minor (one “click”) adjustments should have to be made. If you are using a computer radio, set the trim memory according to the manual and then you are in business.

I suggest that you take a “spotter” out with you when you are flying a new, or newly repaired, airplane for the first time. The spotter can make rough trim adjustments while you fly the airplane and it will be a safer and less stressful operation.

Until a new pilot gets a good feel for trimming the airplane, it is a good idea to get it in trim and then move trims (one surface at time) to the out of trim positions and see how the airplane handles; then re-trim the airplane. This also gives the pilot some experience, under more controlled conditions, to get accustomed to feeling for, and moving the trim buttons back to trim. This is a simple exercise that can help a new (or old, for that matter) pilot be prepared to properly trim the next airplane.

Fly as much as you can.

Dave Heape