



# FLIGHTLINES

## Newsletter of the Texins Flying Club

May, 1999

### CALENDAR OF EVENTS

**5 May (Wednesday):** TFC Board Meeting. 6:30 PM, TKI's terminal. All members are welcome.

**8 May (Saturday):** Member/New Member meeting, donuts at 8:30am, meeting at 9:30am.

**26 May (Wednesday):** Aviation Pilot safety seminar. 7:00 PM, TKI's terminal. All are welcome. Contact Mike Hance at mwhance@juno.com or 972-346-3346

**2 June (Wednesday):** TFC Board Meeting. 6:30 PM, TKI's terminal. All members are welcome.

**12 June (Saturday):** Member/New Member meeting, donuts at 8:30am, meeting at 9:30am.

### Congratulations on these Member Achievements!

Member	Event	Date	Instructor
Mohammed Choudhry	1 <sup>st</sup> Solo	3/5/99	Jim Evans
Mike Mize	1 <sup>st</sup> Solo	3/10/99	Calvin Coffey

### Highlights from April Board Meeting

Board Member attendees: Steve Aughinbaugh, Art Jones and Ash Collins.

The meeting was canceled due to not having a quorum of board members present. All business will be carried over to May's meeting. →

### The Mooney is baaaack!

I have actually seen the club Mooney in our hanger at TKI. In fact I have pictures of it! There are some radio problems that are being worked, so like all of our airplanes it is good practice to check the maintenance recorder before making a long trip to the airport. Remember that the club has specific rules about being current in club retractable airplanes, so get with an instructor if you need to get current before jumping in the Mooney or the Arrow. You may also just want to go up with an instructor simply to ensure that you haven't lost a bit on the operation of the Mooney since it has been gone for so long.

But, if you are current, go for it. Remember that the Mooney has a new paint job. So it does look nice and besides it is the fastest airplane that the club has. →

### Why Not Use Those Flaps?

by Rick Durden as published on AVWeb

<http://www.avweb.com/articles/lounge/tp10004.html>

*Which group do you fall into -- the flap crowd or the no-flap crowd? Do you know when it's best to use wing flaps for landing and when it's best to leave them stowed? This is one of general aviation's longest ongoing debates, especially with the lighter, smaller models in the fleet. After defusing an emotional "flap flap" in the local airport lounge, AVweb's Rick Durden takes readers on a detailed discussion of the pros and cons and the whys and why-nots of using those often misunderstood devices. Where do you stand?*

It had been one of those busy Saturday mornings at the office.



It was going to be nice to get out to the airport and spend a little time in the pilot's lounge readjusting my perspective on the world. I had a little time before an aerobatic student was scheduled and then it was going to be home for the honey-do's. I figured it would be pleasant to relax in the lounge, listen to and tell a few lies,

check the pack dates on the chutes and get ready for my student.

It didn't exactly work out that way.

I arrived just in time for the end of it. Some pretty harsh words still hung in the air. The combatants had been pulled apart by other lounge regulars. New student Barb, who had brought her twins, Erika and Erin, out to see what she was doing, looked on in open-mouthed astonishment.

Recognizing the protagonists, I looked over at Hack, who had one's arms pinned securely and said, "Flaps?" He grimaced and said, "Yup." The two were walked off in separate directions and, with a few stern words on the side, told they should stay away from the lounge for a weekend. Things settled down and before long the usual discussions in the lounge flowed around me while I considered what had just happened.

Here in the lounge we have a microcosm of one of aviation's major disagreements for little airplanes. Our two friends have

been arguing hammer and tongs over the use of flaps on landing. They reflect a battle I've listened to among pilots throughout the time I've been flying and virtually everywhere I go. In fact, the FAA once stepped in and decreed that a normal landing is with full flaps. Having the government make a pronouncement to the group of individualists who make up the pilot community had the predictable effect of fanning the flames of disagreement.

To borrow from Winston Churchill, never have so many argued so long and so hard over so little. What makes the whole flap over flaps so funny is that by the time you get away from the smaller, single engine airplanes, the argument goes away. Virtually everyone uses full flaps for landing on the bigger singles and the twins.

But, discuss landing a Cessna 150/152 or a Cherokee 140 and it is Katie bar the door, there will be strong emotions and sometimes, fighting words.

The no-flap or partial-flap crowd points to a number of Owner's Manuals and Operating Handbooks that repeat a phrase which says something along the line of using the minimum flap setting for the runway length on landing. They correctly point out that the pitch change from the final approach glide in the flare is smaller without flaps and so it is easier for less-experienced pilots to make a landing. It is easier to get the airplane lined up on the runway in a crosswind because of the extra airflow over the control surfaces. It is also easier to make a go-around from a partial- or no-flap approach. They say it is hard to judge the flare when descending so fast, power off, with full flaps. Besides, the partial-flap crowd points out, on many airplanes there is only one knot difference in the stall speed between half and full flaps.

The other side of the argument tends to be that using full flaps results in a slower touchdown and less bouncing around in gusts because the added drag helps stabilize the airplane. Proponents add that the flaps are on the airplane for a purpose, not decoration, and it doesn't matter that you come down final with lots of airflow over the control surfaces, sooner or later you have to slow down and lose that airflow.

So, what do we have? It's true, for pre-solo pilots sorting out the problem of trying to keep all those monkeys under the bushel basket, the touchdown part of a reduced- or no-flap landing is easier to learn. A good instructor will have the student configure the airplane for landing in a way that minimizes distractions and lets the student concentrate on hitting that there runway. Only after the initial skill is gained does a good instructor start teaching the more complicated landings, such as short field, soft field, wheel (for tailwheel airplanes) and crosswinds.

I've noticed that many of the no-flap set are also renters, not paying directly for tires or brakes. But, mentioning that only fans the flames of righteous indignation, so I won't.

## **Which Is Better, Full Or Reduced Flap Settings On Landing?**

I'll give you the lawyer answer: It depends. However, in most circumstances you are better off with full flaps.

My opinion on the subject began to form during some days of research when I was flight instructing in college. A short distance across the ramp from the FBO where I worked was the local FAA office (back then it was called the General Aviation District Office). During some lousy weather days I came to spend time talking with an FAA inspector. He was superb. He had retired from Pan Am after a career that included service aboard flying boats and he believed safety was enhanced by talking with and counseling pilots, not leaning on them. He suggested I spend the crummy weather days looking through his office's collection of accident reports. So I did.

I got interested in landing accidents and found that where flap deflection on landing was recorded, the landing accident rate seemed to be inversely proportional to the percentage of available flap being used. That is, the more flap deflection used, the fewer the number of accidents.

I also noticed that most landing accidents were really rollout accidents. The pilots almost always managed to get the airplane onto the runway, then lost it during rollout.

After years of wrestling with just trying to hit the runway, the fact that the loss of control occurred later on was an eye-opener. The real problem with a "landing accident" was not control of the airplane in flight. It was loss of control after touchdown, both on conventional- and tricycle-gear airplanes.

## **Control Thy Airspeed And Thy Direction!**

Because of those days of looking at accident reports, I've tried to pay attention to the flap-selection-on-landing issue over the years. I've listened to a lot of arguments, read articles, watched one crash involving loss of control after landing and looked at a few airplanes that had run off runways. As a result, I've formed some opinions on the use of flaps on landing. They may be imperfect, but they were not arrived at hastily.

1. The cause of most landing accidents, no matter the wind condition, is not control of the airplane on final. While the cliché about a good landing following a good approach is pretty true, as an instructor I see a lot of pilots, usually not student pilots, who are uncomfortable slowing the airplane down on final. They tack on extra knots for the spouse, the kids, the relatives and their favorite TV shows. They whistle down final at the speed of heat because that way the controls don't feel sloppy. Excess speed, combined with the low wing loading of light singles, causes them to float and start having problems with drift as the speed decays and the flight controls begin to need more deflection at the lower airspeed. Or, they notice that they are running out of runway. The next step seems to be for the pilot to stick the airplane on the ground quite a bit above its stall speed. Sometimes the first part of the

aeronautical anatomy to make contact with the runway is the nosewheel.

2. The resultant landing accident is caused because there is less rolling control than the pilot anticipates. There is pretty good aerodynamic control, but the pilot simply does not use it. The mind-set seems to be that once on the ground the aerodynamic controls are no longer relevant. "Hey, I'm on the ground, I should be able to rely on the tires to go where I want." In addition, just after touchdown there is a huge tendency for nosewheel aircraft pilots to sit back with the "I made it" sigh. Much to their dismay, they discover the airplane doesn't have squat for rolling control when it is zorching along at or above stall speed. It is flying more than it is rolling.

Next time you are at the airport during a crosswind, watch the landings and see how few pilots keep full aileron in during rollout. In fact, only a portion of the pilots out there taxi with the ailerons fully deflected in a crosswind, or remember to keep the elevator all the way up when taxiing on grass (the latter is very rare if you watched the production airplanes at Oshkosh last summer).

During the early portion of the rollout flight controls are still remarkably effective. We've all done slow flight at altitude, even while scared to death about the whole concept, and noticed that the airplane was controllable. It just took some relatively big control inputs to get the airplane to go where we wanted it. So, after touchdown, it is the flight controls which keep the airplane going in the desired direction, not the wheels. Time and time again, the pilot applies a little aileron, but not enough. The result is a sideways, hopping skid off of the runway into bent metal. Or, the pilot pushes the nose down in an effort to get rolling control which simply isn't there yet, and makes the main gear even lighter on the runway, slides the tires and goes off the end. The TV cameras then come out and help our hero give general aviation another black eye.

3. There is a window of exposure between the moment that aerodynamic controls lose effectiveness and the wheels develop it. At touchdown we still have pretty good flight control effectiveness if we are willing to use it. It will diminish in effectiveness as we decelerate. When we are rolling slowly we have good control because the weight is on the wheels. That control gets progressively better during deceleration. The idea is to minimize the period where you have neither good flying nor rolling control. How do you do it? Land as slowly as possible, decelerate quickly and put the weight on the main wheels early. Landing slowly means you kept the airplane going in the correct direction in the air through the judicious use of the flight controls. As a result, the flight controls are positioned to help you out on the ground...think of the touchdown as another part of the landing process, not the end of it (fly the airplane until it stops moving, ever heard that before?).

From a behavioral perspective, pilots who fly at the recommended speed down final, with full flaps, tend to be in the habit of putting the flight controls where needed and to continue to do so after touchdown. It seems to be a cause and

effect event. Those who fly overly fast down final and need little control deflection seem less likely to use aerodynamic control during rollout and more prone to wreck airplanes.

Touching down with full flaps gives you the lowest stalling speed. It also gives you an additional benefit: maximum drag so you will decelerate as rapidly as possible with the power off, getting you down through that red zone of poor control rapidly.

While the FAA may frown on it as a negative transfer of learning and cause you to run the risk of someday retracting the gear during rollout, raising the flaps about one-third of the way into the rollout helps put weight on to the main gear about the time the flap's value for aerodynamic deceleration is running out. (Yes, you have been warned, if you grab the gear handle, you did it knowing the risk, don't jump on me.) You get a triple benefit from using flaps: low touchdown speed, rapid initial deceleration and a lift-dump device for putting weight onto the wheels to enhance rolling control.

### **But, What About Go-Arounds?**

Someone always jumps in the discussion and claims that a \_\_\_\_\_ (just fill in the blank) won't climb with full flaps. That simply is not true for any general aviation trainer made in the last forty years unless it is a hot day in Denver. If the airplane will not climb with full flaps something is wrong. Check to see if the engine is developing static rpm as called for in the Owner's Manual or POH. Check to see that the propeller meets specs. Then check to see if the person flying is trying to climb at too fast a speed. I agree that we seem to be having more go-around accidents in the last few years than in the past. I suspect we have a problem with recurrent training. Pilots are not practicing go-arounds and have trouble with them when they need to do one.

A go-around from a balked, full-flap landing involves immediate application of full power, shutting off the carburetor heat and setting up the correct climb attitude while raising the flaps to the half deflection position. As the climb continues, the flaps are moved to the position for obstacle clearance climb at  $V_x$  and then retracted after obstacles are cleared and speed is increased above  $V_x$ . In some of the recent flight reviews I've given, pilots have selected flaps up before applying full power. That seems to be a negative habit transfer from touch and goes. Sigh. Maybe it is a good reason to not do touch and goes.

### **What About Airplanes With No Flaps?**

The light wing-loading airplanes with no flaps, other than the Ercoupe, have a fairly high landing accident rate. I'd be curious to compare the rate between the Piper J-3 Cub, which has no flaps, and the Super Cub, which does. The no-flap airplanes also tend to be tailwheel machines, which adds another variable to the issue of landing accidents. They are more challenging to land; however, tailwheel pilots learn early on that they have to fly the airplane until its tied down and thus tend to touch down and keep the flight controls positioned correctly during rollout.

## A Down Side To Full Flap Landings?

So what is the down side? The fact it takes more work to line up with the runway and make the touchdown. It requires more skill to land the airplane with full flaps. Is that a bad thing? Well, for some people, yes. There are those who refuse to keep their skills up. There are those who are lazy. There are those who simply do not have the opportunity to fly as frequently as they desire to polish their skills. Yes, I recognize that this flying stuff costs money and I have tremendous sympathy and understanding for this third group.

Looking beyond the seemingly obvious, the fact that it takes more skill to get the airplane to the desired spot on the runway with full flaps is actually a benefit. It tells the pilot when he or she should not try to land on that runway. How so? Glad you asked!

Setting up the airplane on final at the recommended approach speed with full flaps and adding no more speed than one-half the gust factor puts the pilot in a very good position to evaluate wind and runway conditions. (Gust factor is the amount over the steady state wind the gusts are blowing. If the wind is reported at twelve with gusts to twenty, the gust factor is twenty minus twelve, or eight. Add half of this value, four knots, to your approach speed, and no more.) Hold the recommended approach speed plus gust adjustment and see if you can line the airplane up with the runway.

If you cannot, that is, you get either the aileron or rudder to the stop and still cannot control the drift, you are getting a message loud and clear. There is good reason to believe you will have significant difficulty controlling the airplane on the rollout. Why buy trouble? That runway may not be a good one for landing under those weather conditions.

If you can keep the airplane aligned with the runway you will have the necessary aileron correction cranked in on touchdown. You can land on one main gear, then go the rest of the way to full aileron deflection as you try to hold the other main off the ground. The deflected ailerons will help you keep the airplane going straight. (Adverse aileron yaw, remember?) The deflected ailerons will also keep the upwind wing down and avoid the wind getting under it to flip you over. The flaps will slow you rapidly. As the nose comes down, the flaps can go up and, hey, presto, you have good rolling control and the ailerons are to the stop where they should be. By the way, you have saved wear and tear on tires and brakes.

Keep in mind that in this situation there is no magic to the center line of the runway. If there is a lot of crosswind and lining up with the centerline is proving difficult, seriously consider touching down on the downwind side of the runway and angling across it slightly, toward the wind, to effectively reduce the crosswind angle.

## Dealing With A Crosswind

Ok, you can't line up with the runway with full flaps. The wind is too strong. What do you do? You remember you are the pilot in command. You select a runway which is more into the wind. It may be grass. Well, that may be why they built a short

grass runway at that airport, for those strong crosswind days. Haven't landed on grass? Why not? Go do it.

The next option is to go to another airport with a runway aligned more into the wind. So you have to arrange ground transportation? It is far less embarrassing than arranging to repair a bent airplane. I've checked.

If you do not have the fuel to get to another, more suitable airport consider two other options:

1. Is there a taxiway oriented into the wind? Is it long enough to land on? With a strong wind it may not take much. You are in a situation where control of the airplane is in doubt because of the strength of the wind. Questionable control defines an emergency situation. For crying out loud, use your judgment; landing on a correctly aligned taxiway of suitable length may be the safest thing to do. I haven't found that it violates any regulation. Even if it arguably does transgress a regulation, in an emergency you may deviate from the regulations to the extent necessary to deal with the emergency.

2. As an alternative, if you have practiced it recently, you might try a portion of the Bob Hoover Tennessee Waltz landing. Come down final with the flaps up and enough speed to keep the airplane aligned with the desired track on the runway in a side, not a forward, slip. Flare just enough to keep the nosewheel from touching down, then touch down on the upwind main landing gear, while still in the side slip (remember, a side slip will track straight ahead because of the effect of the wind). This is the nosewheel version of a wheel landing in a conventional gear airplane. Keep the airplane on that wheel, power off, as long as you possibly can. That means you will progressively move the control stick or wheel all the way to the side and aft. Only after you have full aileron and elevator deflection will the downwind gear and nosewheel touch. At that point you can relax the elevator pressure a bit, but not the aileron. You've done all you can with the flight controls, keep them there and hope you can keep it straight until the wheels quit sliding sideways and the tires get some bite.

Am I being inconsistent by suggesting a landing with no flaps after a long discussion of the benefits of full-flap landings? Perhaps. The flaps-up landing increases the loss of control exposure on roll out. The idea is to get the pilot's full attention focused on the crosswind and the need for full aileron deflection after touchdown before making the conscious decision to land the airplane flaps-up. Then, and only then, is the pilot ready to do what is necessary to put the airplane where desired and not be a passenger. →

### ***TKI is getting new Lighting***

McKinney Muni (TKI) is getting new runway and taxiway lighting starting in April. The existing runway lights will be replaced with new MEDIUM intensity lights and taxiway lights will be installed. NOTAMs will be published during the project and this has been funded by the Texas DOT.

Construction will be conducted in four 14 day (including Saturday and Sunday) phases. Weather delays may cause changes in the schedule so be sure to check the notices at the airport and/or the NOTAMs.

Phase 1 will start on April 15 and will relocate the Rwy 17 threshold 2500 feet south. During this time the glideslope will be disabled but the localizer will remain active. Also the Rwy 17 REIL, PAPI and approach lights will be disabled. VASI for Rwy 35 will be active.

Phase 2 will start on April 29 with the relocation of the Rwy 35 threshold 1800 feet to the north and its REIL and VASI lights will be disabled. In addition the entire ILS will be disabled, no glideslope or localizer. PAPI for Rwy 17 will be active.

During phases 1 and 2 the runways will remain open at all times with temporary lighted thresholds located in the appropriate locations and lighted X's on the sections of the runway being worked on.

Phase 3 will begin on May 13. This is when the middle section of Rwy 35 will be worked on. The ILS will be shutdown during this whole period and the runway will be closed entirely from 10 PM until 6 AM every day.

Phase 4 will begin on May 27. This is when the middle section of Rwy 17 will be worked on. The ILS will be shutdown during this whole period and the runway will be closed entirely from 10 PM until 6 AM every day.

The project should complete on June 9. Please note that these plans and dates are subject to change and the official information will be in the NOTAMs.

### ***Fleet Usage Statistics***

	<b>Hours</b>	<b>Member</b>	<b>Total</b>
<b>Month</b>	<b>Flown</b>	<b>Flights</b>	<b>Flights</b>
April	337.2	156	286
May	346.2	134	251
June	274.3	137	237
July	319.2	130	274
August	287.3	139	260
September	225.5	131	183
October	210.8	118	184
November	133.3	92	132
December	137.4	67	104
January	168.1	94	152
February	200.9	97	181
Average	238.8	116.2	202.8

These statistics are collected by the Controller and will run a month or two behind. The Member Hours column is the total number of billable hours flown by all club members. The member flight is the number of different members that have flown at least once during the month. The Total Flights is the total number of flight log entries for the month. →

## TEXINS FLYING CLUB OFFICERS

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Dick Stephens	R	✓	✓					(972) 517-1647	(972) 517-1647	Stephens6@pulse.net

**Tier** - Employed by TI; **CFII** - Certificated Flight Instructor, Instruments; **MEI** - Multi-Engine Instructor; **Conv** - Conventional gear (taildragger) instructor; **SES** - Single-Engine Sea; **CFI** - Certificated Flight Instructor, Glider; **ATP** - Airline Transport Pilot-rated. **Note:** All instructors are assigned by TFC's Chief Flight Instructor, (Art Jones).

**ABOUT THIS NEWSLETTER:** Input is encouraged! Of particular interest are flying experiences that others can learn from. Forward inputs to Steve Aughinbaugh. PC Drop **PVPD**, email [saughinbaugh@ti.com](mailto:saughinbaugh@ti.com). →

### TFC AIRCRAFT AND RATES

Tail No.	Make	Model		Rate/hr
Simulator	ATC	610J		\$0.00
N150TM	Cessna	150M	Commuter	\$35.00
N6368K	Cessna	150M	Commuter	\$35.00
N45023	Cessna	150M	Commuter	\$35.00
N7929U	Cessna	150M	Commuter	\$35.00
N733NB	Cessna	172N (180)	Superhawk	\$49.00
N5682T	Cessna	172 (145)	Skyhawk	\$49.00
N8142H	Piper	PA-28-161	Warrior	\$52.00
N7508J	Piper	PA-28R-180	Arrow	\$62.00
N5636Q	Mooney	M20E		\$62.00

- Detailed aircraft features are listed in the Club Handbook.
- Instruction: Primary: \$17.00; Advanced: \$19.00 (\$0.50 of each goes to TFC for billing admin; rest to instructor).
- TFC measures aircraft rental rate using tachometer hour.
- Rate includes cost of fuel; does not include tax (8.25%); Instruction flights endorsed as training are tax exempt.

### KEY PHONE NUMBERS

#### McKinney & TFC

Aircraft Status Recorder	(972) 995-8333
Aircraft & Sim Scheduling	(972) 562-8359 (562-TFLY)
TKI ASOS land line	(972) 542-9659
TKI Control Tower	(972) 562-6651
Airport Manager	(972) 238-0091 ext. 202
ExecAir at McKinney	(972) 562-5555
Monarch Air (TKI)	(972) 562-0717
TI/Arrow: Laurie Skalenda;	(972) 575-7555 p598-4346
Mark Schultzy, N45023 Owner	(972) 494-9488
Garry Ackerman, N8142H Owner	(972) 867-8713
Liam Gartside, N7404A & N5682T Owner	(214)-792-7980

#### General

DUAT	(800) 245-3828
Dallas FAA/FSDO	(214) 902-1800
Ft. Worth Center	(817) 858-7300 (ZFW ARTCC)
FlightCom, Inc.	(800) 432-4342 (Josh Pruzek)
Southwest Soaring	(972) 251-5079 Metro
Monarch Air (ADS)	(972) 931-0345
DE: TM Smith	(972) 661-8086
DE: Richard Caldwell	(903) 885-4911
DE: Kendall Haley	(940) 321-2849

### TFC COMMUNICATIONS & INFO

WWW	www1.itg.ti.com/FlyingClub
News Group	ti.rec.flying
Documentation	USADA10 \\cna0840436a\tfc\op-regs\TFC-REGS.doc
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**HINT ABOUT THIS PAGE:** This page is designed to be torn off and then kept in your flight bag. This will ensure that you away have all of the club contact information with you. →

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