

How I fly the Left Circuit Pattern for Landing.

Ray Grigson Multiplayer Coordinator

DC-3 Airways

This description is relative to a Crosswind entry which could have been from a straight in join or after turning from a Upwind join and the screenshots are relative to Runway 18
In each case the altitude agl (above ground level) is required to be 1000ft when abeam the Upwind threshold. This altitude is important and is required to be plus or minus 50ft from here until the turn to Base.
It is important so that aircraft joining the Downwind leg, upwind you will be at the same altitude and visible to you ahead or to the right.

It is possible, and has happened in the real world, that a/c entering downwind from a higher altitude and descending to 1000ft agl after entering Downwind can and have descended onto another aircraft they didn't see that was already on Downwind at the correct altitude so that it is imperative that all a/c be at 1000ft agl +or- 50ft when joining Downwind from any direction including one doing circuits/patterns from touch and go's

The position to be in on Crosswind is where the Upwind threshold is just visible to the pilot as the a/c passes abeam before turning Downwind for a left base to Rwy 18 and will be on a heading of 090 deg at this Crosswind point (see screenshot).

I try for an IAS of 120kts at this point and ensure I am flying this leg on the correct heading.

At this point I can, and do, either of two things.

If my speed is 120kts I turn onto Downwind after 20 seconds

If for some reason my speed is different to this I push the 'W' key for full screen and with my hat switch on the 45deg view position I turn onto Downwind as the threshold nears the left bottom corner of the screen.

If you have not got a 8 position Hat switch use the #1 key on the number pad.

Basically your intention is for the position of the a/c to be 1½ to 2 miles out from the runway after turning Downwind.

With the a/c now on Downwind at **1000ft + or - 50ft agl**, with an IAS of close to 120 kts and on the reciprocal rwy heading, in this case, 360 deg by the Gyro directional indicator.

Note from screenshot #5 that the runway is seen approx. midway between the lower edge and the horizon

When abeam the rwy threshold, in this case 18, the wheels are lowered and IAS drops to 110kts.

I may lower ¼ flap at this point to reduce speed further if there is another a/c ahead.

I say may as some Multiplayer pilots I've been behind tend to fly Downwind so far they must almost lose sight of the airfield but I usually keep flaps up so as to hold altitude easier at this speed not wishing to lose height until I turn Base. It is a lot easier to hold a heavy aircraft in the real world at the correct 1000ft than in Flight Sim especially if you have Elevator sensitivity set high too high.

If you feel more comfortable then use A/P Altitude hold in the Circuit until turning Base.

Do not allow the speed to go below 110kts before turning Base so that you don't have to pitch the nose up to hold altitude and in so doing lose sight of the horizon and begin to "Mush" the aircraft.

If you wish to keep speed at this, then hold off on dropping flap until on base.

Try both ways when consolidating this circuit pattern flying in practice.

[Like flying in the real world you must practise and practise until you have mastered it.](#)

Now the point in the circuit pattern to turn Base and which everyone seems to differ with some going so far Downwind it is ridiculous and causes conflicts with others turning Base earlier but finding a/c on Final, coming it seems from a long straight in from the next County!

It shouldn't take such a long Final approach from Base to line up with the runway although I will say it is difficult to turn Final and be spot on and in line with the runway in Flight sim compared to the real thing.

Ok then, where to turn Base.

I push 'W' for full screen and with the hat switch to the 45 deg view I turn onto Base when the threshold is at, or almost at, the middle of the side view like looking back from a real cockpit. This applies to the DC3 because the turn would be sooner than this for a light aircraft.

Note the position I turn as shown in screenshot #6.

Do not go further than this as it is unnecessary and in cases of emergency can be made earlier.

Here again you could your time the turn from when you lower the U/C after some practise enabling you to keep looking ahead for other traffic.

I try and make it a habit of announcing my Downwind position such as " 225 Downwind abeam rwy threshold" when there are numerous aircraft in the circuit pattern.

Lower ¼ flap in the turn onto Base and trim nose down as the aircraft tends to balloon slightly and fly to a gyro heading of, in this case 270 deg.

Adjust trim for a descent rate to have the a/c at 750 to 800 ft on turning to Final.

IAS should be at or close to 95 kts as the a/c is straightened out and the VASI should show you on the Glide Slope, if there is a VASIS, especially if there is a T- VASIS(an Australian developed Indicator System)

Note the term VASIS (Visual Approach Slope Indicator System) as it is a system of lights arrangement. See details of the T-VASIS in screenshot #15.

Check the VASI while on Base to see that you are not below the slope.

If so level out and hold that altitude through the turn onto Final or until you see you are at Glide slope height.

On straightening up I check the VASI or the shape of the runway (experience can only teach you this and to learn take note of the shape when on the Glide slope at various heights and distances out from threshold.

If all looks well I lower flaps to ½ and check my IAS.

I trim for speed, and adjust power to keep the threshold stationary in the window.

Initially, if either has to be adjusted very much the other will need adjusting to compensate, but basically I always fly approaches the way I was taught and that is attitude for speed and power for descent rate, keeping the threshold stationary in the windscreen with power changes and trim nose up or down for speed.

I try and be over the fence at not above 80 kts and over the threshold at 75 kts.

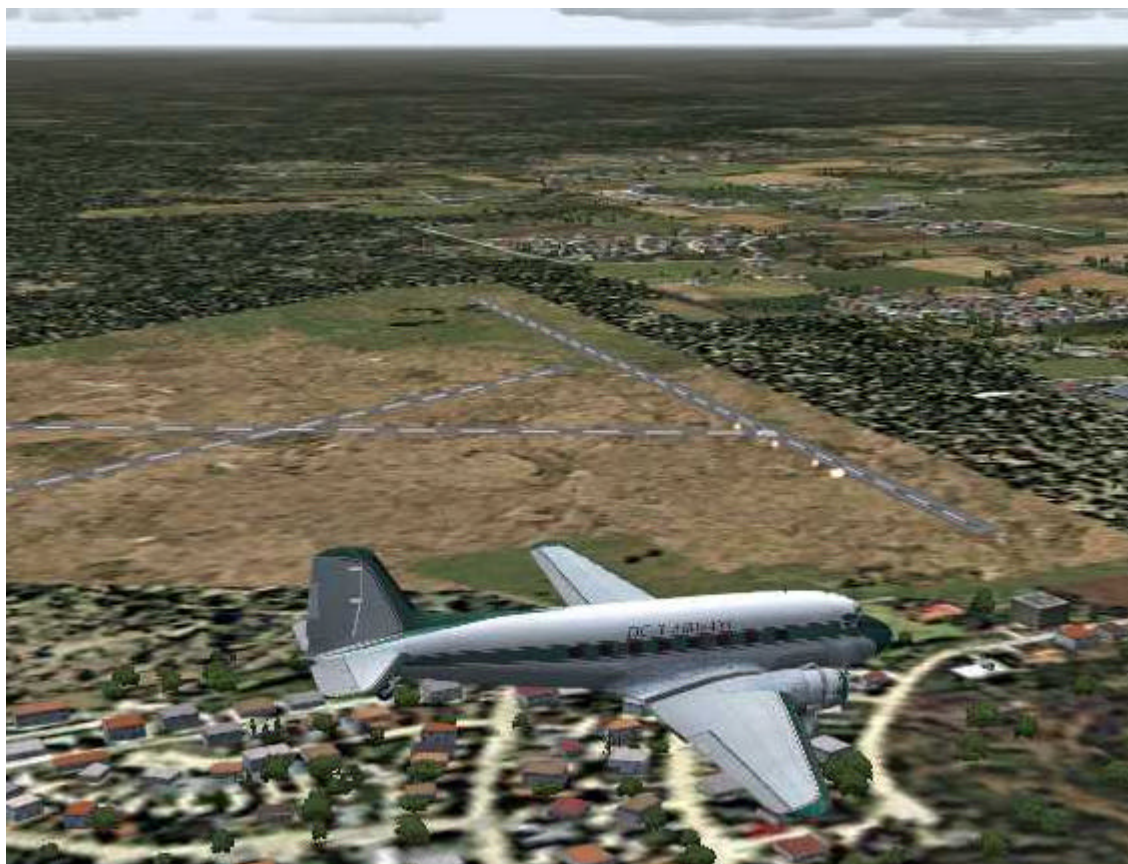
At the point, just prior to touching, I look some distance along the runway, even to the end, to gauge the rate of descent and come back on the control gradually to slow the descent by watching the movement up or down of the spot further along.

If it is gradual I hold the Elevator at that and let the a/c settle onto it's wheels and if it stays there great, if it bounces I do not move the elevator but maybe give a touch of power to stop it dropping quickly and bouncing again, but hey! good landings are not something that happens everytime especially on hot days down here in Australia when there is a lot of hot air rising in patches over the runway but if you can all walk out of the a/c and you are at the place your flight plan said you are supposed to be then pat yourself on the back because landing the DC3 in Flight sim is not a piece of cake, but hey it's great fun isn't it and besides my good friend John Herrick, 5000hr Captain on DC3's, tells me it was much easier in the real Gooney to do a good landing than it is in Flight Sim, so there it is from a professional.

Please, I do not want to get into debate about these instructions or more to the point how I fly my DC3.

There are pilots in DC3 Airways Multiplayer that need some pointers where to put themselves in the circuit pattern and these notes are directed to them.

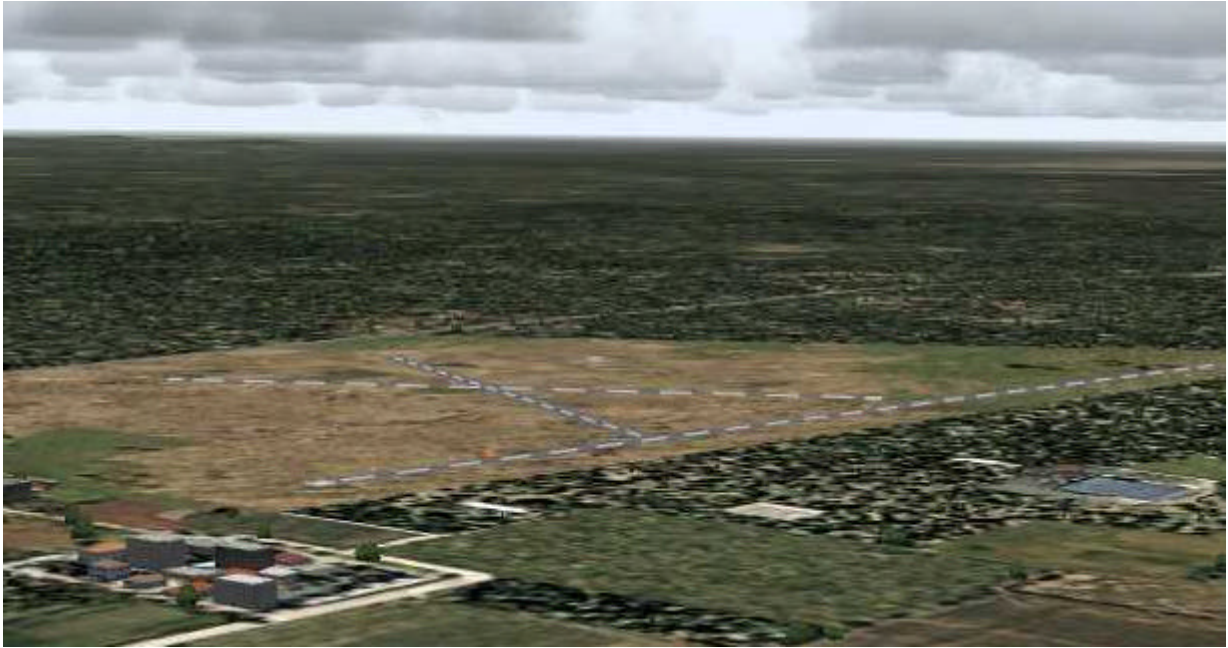
I am lucky that I have a real world retired Captain to phone whenever I need tips on how the real ones performed and I can sit beside him watching how easy he does it on Flight sim but then I can fly a Cessna or Arrow or Beechcraft or Fuji and the Glider pretty well in Flight sim too as I flew those for real a long time ago.



1. Joining Crosswind for Left Base to rwy 18.
Altitude at this point must be 1000ft agl



2. Abeam Upwind threshold
Heading 090 at 1000ft



45deg view back in W mode
3. Turn Downwind when threshold is near window edge



4. FSNav showing a.c ready to turn onto Downwind
to be between 1 ½ to 2 miles out from runway

Note that if Joining Downwind from the east
And South and in between then it should be
At 1000ft agl to the South of the a/c position
above



5. Abeam 18 threshold on Downwind 120kts 1000ft agl
Lower gear here. Note runway is midway between window ledge and horizon.



6. 45deg back in W mode
ready to turn onto Base with threshold midway back in window
IAS should be back to 110kts lower ¼ flap in the turn
A/C is approx 2 mile from threshold at this point



7. On Base leg not ready to turn onto Final yet.
Note the one upright T VASIS leg light is visible indicating I will be under the correct glide slope angle when the a/c turns final unless correction is made.
I allowed my descent rate to be too high after turning Base and now have to increase power and trim up to be on the slope on Final



8. View from the side window with the T VASIS
Indicating I have regained correct altitude and
When the threshold is 1/3 across the window
I will turn Final.
Because my descent rate was too high after I

turned Base 1 really messed up this leg but
have managed to salvage it



9. Spot view shot of previous cockpit view



10. On Final on Glide slope and I am about to trim nose down to get speed to 90kts and increase descent rate to 300ft/min then I will juggle power to stay on the slope if it is not already the right combination of trim and power. Because of a slight crosswind I will probably leave Flap at 1/2



11. Over the fence a little high and fast and to the right to allow for wind effect. I would throttle right off here and trim nose up a little to wash off speed and plan to land further along the runway than I would normally do
Runway altitude is 200ft



12. Touchdown with slight wind correction and plenty of Runway to spare.



13. All down in one piece

14 .Not exactly a short field landing but you should get the idea
and will probably do it better than me, if so
tell me how you did it.



PILOTS' NOTES ON "T" — VISUAL APPROACH SLOPE INDICATOR SYSTEM

GENERAL

In D.C.A. Publication No. 43, the "Red-White" Visual Approach Slope Indicator System and its use were described. This system, being an I.C.A.O. standard, is being installed at certain Australian international airports. However, another Visual Approach Slope Indicator System, known as the "T"—VASIS, has been developed in Australia and will also be installed at several airports. The specific type and location of VASIS will be published in A.I.P./RAC-2 landing charts.

The "T"—VASIS system provides approach slope guidance by symbolic means as distinct from colour differentiations, colour being used only to provide a conspicuous warning signal when an approach is made which grossly undershoots the correct approach slope. The system is of variable intensity and will be displayed for use by both day and night. It is designed for use over ranges of at least four miles.

The symbolic nature of the system is such that it may be likened to an I.L.S. glide path indicator—the cross bar representing "on slope", and deviations from "on slope" appearing as one, two or three lights above or below the cross bar. The sensitivity is approximately the same as when flying within the three "dot" up or down positions on an I.L.S. glide path.

It should be noted that, as colour discrimination is not an element of the basic system and as the lights are "variable white", the inevitable yellowing of the lights when the intensity is reduced to avoid glare does not in any way affect the accuracy of the information presented to the pilot. The red signal appears as a gross undershoot warning only.

DESCRIPTION OF "T" - VASIS

The ideal layout of the "T"—VASIS is shown in Figure 1.

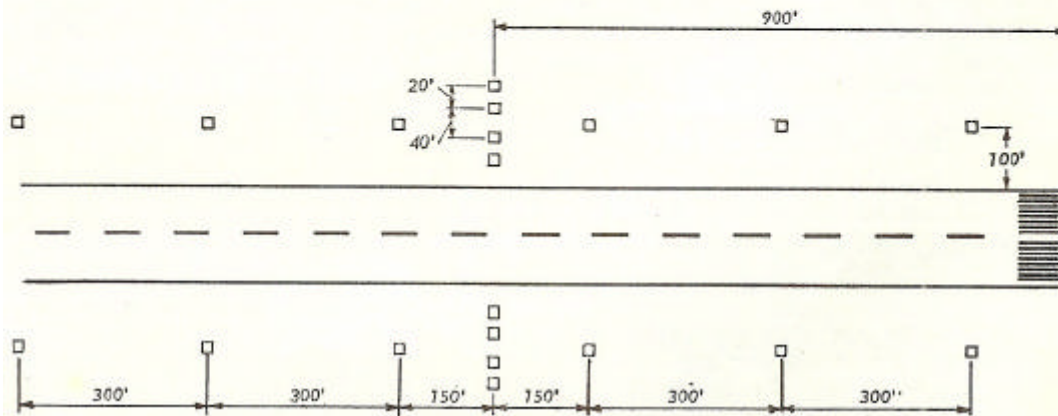


Fig 1

15. T-VASIS

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CIRCUIT RE-ENTRY

AIM

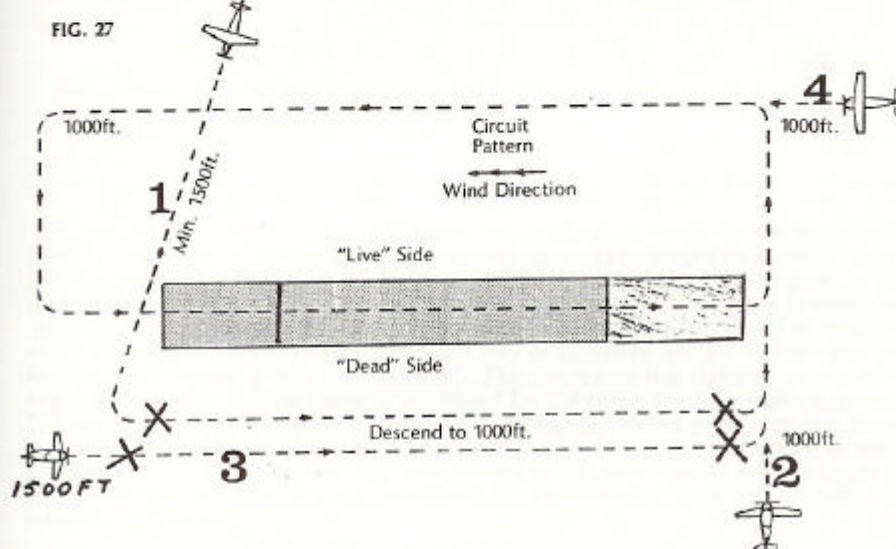
To enter the circuit pattern at an aerodrome safely using the correct procedures.

CONSIDERATIONS

Under normal conditions, three legs of the circuit pattern must be flown at 1000ft. above ground level before approach to land may be made. If the circuit pattern is left handed, the "live" side is to the left of the runway facing the direction of take-off and landing and the right hand side is known as the "dead" side.

The final 500ft. of descent from a higher altitude, to 1000ft. may only be made on the dead side (Fig. 27).

FIG. 27



1. When approaching from the live side, overfly at 1500ft. AGL and descend on the dead side to 1000ft. flying in a left hand pattern. Join the circuit at 1000ft. on the crosswind leg.
2. When approaching from the dead side, descent may be made to 1000ft. prior to approaching the aerodrome and entry made straight along the crosswind leg.
3. When approaching from upwind, fly parallel to the runway and to the right hand side, descending to 1000ft. and join on crosswind leg.
4. When approaching from downwind, entry may be made at 1000ft. along the downwind leg.

If unfamiliar with the aerodrome or wind conditions are unknown, it is recommended to overfly 500ft. above circuit height and check landing direction and wind before commencing circuit pattern. Descent to circuit height must then be made on the dead side.

No right hand turns are to be made if the circuit pattern is left handed, and similarly no left hand turns are to be made if the circuit pattern is right handed. Entry onto base or final approach may only be made at a controlled aerodrome and only if approved by the controller on duty at the time.

APPLICATION

When approaching the aerodrome, decide upon which method of entry is best suited for your approach and execute same as detailed under considerations. Entry on base or final is not

