
SHORELINE FLYING CLUB NEWS

Volume 1, Issue 2

January 2009

What is going on at the Club???

Dan Jacobson

We hope that you had a wonderful holiday season and join everyone in hoping for a quickly improving economy in the upcoming New Year.

Let's talk about some positive improvements to the Club.

- Our Maintenance Van "The Bread Truck" is now for all intensive purposes, fully operational. This has been a long term project that Gordon took on which would allow us to properly manage maintenance for our growing fleet. Aaron Abell, our mechanic has been doing a great job ensuring that maintenance squawks are addressed in a timely manner, and we are sure that you have noticed that number of open maintenance items is greatly reduced.
- We have added two airplanes to the fleet. A 1947 Cessna 120, N2324N and a 1958 Beechcraft Travel Air, N265AA. Both of these airplanes are gorgeous. We are very excited to have them in our fleet. Those of you who

continued on page 2

INSIDE THIS ISSUE

- 1 What is going on at the CLUB?
- 1 New Aircraft
- 2 Member Accomplishments
- 3 New Checklists
- 3 What is a VDP? Instrument Issues
- 4 Flying the 747-400

New Aircraft Coming to Shoreline Flying Club!

We are pleased to announce that on December 1, we added an immaculate 1947 Cessna 120 to our fleet.



This 120 was completely restored by its owner, Matt DiCicco a year and a half ago. Contact Matt to arrange your tail-wheel checkout. mattdicicco@comcast.net (408) 354-1334

In addition, we are very pleased to announce that we have an agreement in place to add a Beechcraft Travel Air, N265AA, to our fleet.



We plan on 5AA being online in January. This airplane will rent for approximately \$200 per hour. This is \$140 per hour less than the closest competitor on the field for multi-engine instruction.

If you are thinking of getting a multi-engine rating or are looking to build multi time, this is a great opportunity.

Please contact Matt DiCicco to arrange your checkout. mattdicicco@comcast.net (408) 354-1334 ❖

have considered adding a multi-engine rating to your certificate already know that there are very few options when it comes to renting twins. There are even fewer affordable options. In fact, at Palo Alto Airport, the closest option to ours is paying \$340 per hour for a Diamond Twin Star. On average, this would add \$2250 to your multi-engine training expense. We are confident that this airplane is by far the most economical way of training in and flying a twin engine airplane in the Bay Area. We need to get the word out that this airplane is available for training and rental. If you know someone who is interested, please have them contact Matt DiCicco at mattdicicco@comcast.net or (408) 354-1334. In order to keep these airplanes in the club, they must fly! Please help us publicize the airplanes.

- N737ZK and N9027H, our classic C-172s both had new carpet installed. We are sure that you will appreciate how much of an improvement this makes in the comfort and appearance of both aircraft.
- N837SP, our C-172SP is scheduled to have the leather replaced on both front seats.
- Fuel prices have dropped substantially. As a result, we reduced our rental rates two months ago. We also posted new **LOWER rates** on January 1, 2009. This is great news for all of us who love flying.

You may have noticed that there are two airplanes missing from the club. Unfortunately, our Piper Cherokee 140 and the Mooney 201 both left the club at the end of November. Both of these aircraft will be sorely missed. We are actively trying to put together a group of pilots to purchase the Mooney from the current owner. We are very hopeful that we will be successful and that N1146J will rejoin our fleet by Spring of 2009.

We are still awaiting the approval of our plans for the remodel of the flying club. The plans have been to the plan checking firm which responded with a short list of issues. Our architect and engineer have responded to those concerns and we are hoping to have fully completed plans in January. This process has dragged out longer than we could have ever imagined.

Thanks for flying with us at Shoreline Flying Club in 2008. We look forward to a great 2009 with new airplanes, a new second floor in the club, lower fuel prices, a recovering economy, and more adventures in the air. ❖

Shoreline Member Accomplishments

October 7, 2008 – David Schie

David Schie passed his **Private Pilot Checkride** on October 7, 2008.



October 14, 2008 – Elizabeth Kidney

Liz Kidney passed her **CFII (Instrument Instructor) Checkride** on October 14.



November 21, 2008 – Trey Ford

Trey Ford accomplished his **First Solo** on November 21.



December 24, 2008 – Dave Horne

Dave Horne was **hired** by Great Lakes Airlines as a First Officer on the Beech 1900 Airliner. Congratulations!



New Checklists

I recently undertook creating a set of standardized checklists for each of our aircraft. Take a look at our website to see the checklists. You will find them by going to the Aircraft / Rates page then click on the particular aircraft you are interested in.

Each airplane has Normal Checklists and Emergency Checklists. I think that you will find that they are very readable and laid out in a logical order. I strongly recommend that you familiarize yourself with the new format for the Emergency Checklists for your airplane. Many of the critical Checklists should be committed to memory. I have placed a dashed outline around those. The others should be performed in a deliberate unrushed manner. Make sure to go over these with your CFI or review them thoroughly yourself.

If you have any questions, comments, corrections or critique for me on these checklists, I welcome your input. dan@shorelineflyingclub.com.

In addition to the new checklists, there are two other resources on this page. There is a link which brings up the weight & balance information for each airplane and there is an Excel Spreadsheet application to calculate your weight & balance for each flight. The result of the w&b calculation is displayed graphically so that you can see where in the envelope your flight begins and ends (after fuel burn). ❖

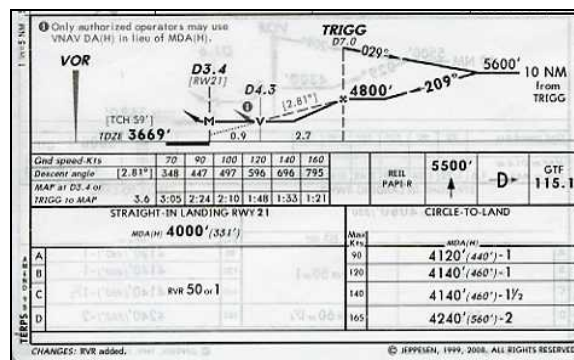


What is a VDP?

What is a VDP? Why do I care? For those of us who fly IFR, this is an important question. Most approaches that we fly in actual conditions are ILSs. Other than in a training environment, I can't remember the last time I did a non-precision approach. So, unless I knock on wood, most likely the next approach I do will be a non-precision to minimums. Well it's a good thing we are discussing VDPs then.

When performing a non-precision approach, if I fly all the way to the missed approach point and then see the airport, it is highly likely that I will not be able to comply with the FAR requirements to descend from that point to the runway. That means, I'm going around. Well, wouldn't it be nice if I could know with certainty at what point I can descend using a normal rate of descent? You can! Either by using the published Visual Descent Point (VDP) or by calculating my own.

A VDP is the pre-calculated point from which I can make approximately a 3 degree glidepath descent to the runway. Jeppesen is kind enough to calculate this point for us on some non-precision approaches, but not



on all. So how do we do it?

If you take the Height Above Touchdown (HAT) at the MDA and divide it by 300 ft., this will give you the approximate distance from the end of the runway in miles for your descent. This is based upon a normal 300 feet per NM rate of descent on a 3 degree glideslope. So, for instance, if the HAT at the MDA is 331 ft, your VDP point will be 331/300 or 1.1 miles from the end of the runway. If you are flying in a GPS equipped airplane, that is easy to determine. If not, you will need to do some mental gymnastics using the DME distance on the Profile View of your approach plate. Hopefully, it is becoming clear why I said that this is a "pre-calculated" point rather than an as you are shooting the approach calculated point.

continued on page 4

Flying the 747-400 (part II)

Dan Jacobson

As we left off in our last episode, we were just getting ready to takeoff in the 747-400. This flight is from San Francisco to Hong Kong. The planned flight time is just under 15 hours. The 747 carries up to 388,000 pounds of fuel. That fuel is held in eight tanks which are split between the wings and the horizontal stabilizer. It is only the longest of flights where we carry fuel in the stabilizer. Fortunately, the airplane is very smart, and it will tell you exactly how it wants to manage the fuel. When the system logic is ready for a particular fuel pump to be turned on or off, it tells you.

For takeoff, the four engines are brought to takeoff power. Maximum thrust from the Pratt & Whitney engines is 56,000 lbs each or a total of 224,000 lbs. Amazingly, even at max takeoff weight of 875,000 lbs, we usually don't need to use all of it and can "derate" the takeoff thrust.

Fortunately, the airplane is very smart, and it will tell you exactly how it wants to manage the fuel...

There are three "V-speeds" that we consider for takeoff.

V1 is our Takeoff Decisions speed. Vr is Rotation speed, and V2 is our initial climb speed. For a heavy weight takeoff, a V1 of 125 KIAS is typical. If a major problem occurs before V1 we must abort the takeoff, at or above V1 and we must continue. We rotate at the calculated Vr speed of about 150 KIAS and accelerate to V2 or about 180 KIAS. At max gross weight, we typically see an initial rate of climb of 2000 fpm. The cockpit is very quiet at slow speeds (under 300 KIAS). We can hear the engines, but it is very easy to talk to each other at a normal volume.

As we accelerate, we retract the flaps. At 3000 ft AGL, we accelerate to our intermediate climb speed of about 280



Cockpit of the 747-400



747-400 Taking Off

A second method is to take 10% of the HAT and subtract that from the time from the FAF to the MAP. So, in the example above, assuming a ground speed of 100 kts, we would subtract 33 seconds (10% of 331) from 1:48 resulting in a VDP of 1:15 past our FAF of TRIGG.

I usually mark the VDP on my approach plates if they aren't there.

If I know my VDP, and I am still at MDA in the clouds past that point, I know that I won't be landing on this approach, despite my best efforts to locate the runway all the way to the Missed Approach Point. This knowledge gives me time to emotionally transition from the "I'm going to land" to, "I'm going to go missed."

While we're talking about non-precision approaches, do you remember how far below the MDA you can descend if you see any part of the approach light system while on the approach? That's right. You can descend to 100 feet above TDZE! Yes, that does mean that if the MDA is 600 ft AGL, you can descend another 500 feet without even seeing the runway! Just make sure that if you go below there, you see the runway! Oh yeah, where can I find the TDZE? Yup, next to the runway symbol on the Profile View, and in the Briefing Strip on the Jeppesen plate. I can't get anything by you guys.

KIAS. For those of you who remember the FAR limit of 250 KIAS below 10,000 ft. yes, I know, we just busted that reg. Fortunately, the FARs allow us to ignore that rule if it is required for aircraft performance. At 10,000 feet we accelerate to our normal climb speed of 340 KIAS. We know that we are at the right speed when the wind noise in the cockpit reaches the point that you have to raise your voice to talk to the other three pilots. Notice I said the other *three* pilots. Airline pilots are restricted to flying a maximum of 8 hours in a 24 hour period. If the flight is scheduled between 8 and 12 hours, we take along a relief pilot. If it is scheduled for more than 12 hours we

take along a second relief pilot.

As we climb through 18,000 feet, the two relief pilots excuse themselves from the cockpit and enter the bunk room which is located in a small room attached to the cockpit. They will “rest” there for the first half of the flight while the “flying” crew flies. At the midpoint of the flight, the two crews swap places. The flying crew takes over again about an hour from the destination. For those of us who are able to sleep on command, this makes for a very comfortable method of completing long flights. Pilots who can not sleep on command usually do not last on the airplane and they bid off to smaller equipment as soon as they can.

The 747, like all airliners, has an excellent autopilot. In fact, we have three autopilots which talk to each other and make sure that each agrees with the other two. I usually hand fly the airplane from takeoff to at least the first level off altitude. The autopilot though, is fully capable of flying the airplane from just after liftoff through touchdown and rollout at the destination. I feel safe in saying that the autopilot can do a much better job of flying than I could ever hope to do.

The 747 is the best flying airplane that I have ever flown. It feels just like it should. It is heavy, but it should feel heavy. It is direct. Meaning, when you put a control input in, the airplane responds immediately. The airplane is extremely stable. It is well balanced in both roll and pitch. So it takes a similar amount of control force to pitch the nose a certain amount and to roll the wings. This is not always the case. Many jets are lighter in roll than in pitch.

Earlier I mentioned that I typically hand fly the airplane to the first level off altitude. Because we take off so heavy, the 747 is not capable of climbing to its maximum certified altitude of 45,100 feet. Typically on heavy legs we will climb to 27-30,000 feet. As we burn off fuel, we climb. We literally spend the next 14 hours step climbing, 1,000 feet at a time, to stay at the correct altitude for maximum efficiency. We use a combination of performance charts, the aircraft Flight Management Computer, very advanced flight planning tools and experience to determine when to climb. Being at the wrong

altitude in a 747 can be extremely costly in terms of fuel. We burn an average of 24,000 pounds of fuel per hour. If we burn an extra 10% because of poor altitude selection (due to traffic, ride conditions, poor pilot technique) that can cost us tens of thousands of pounds of fuel over a 15 hour flight. We plan to land with somewhere slightly over one hour of fuel on board or 23,000 pounds. You can see that if we overburn by 20,000 pounds, this could cause a situation where we would have to divert for fuel.

The 747 is full of communications options. Our VHF radio is just the start. In addition, we have two HF radios for long range communications. We have two SATCOMs which allows us crystal clear phone communication from anywhere (south of 82 degrees north) on the face of the earth to any telephone. CPDLC (Controller Pilot Datalink Connection) allows us to send text messages through VHF or SATCOM radios directly to ATC. ADS (Automatic Dependent Surveillance) sends position reports automatically to ATC. All of these combined allow us to operate literally around the world 24 hours a day with essentially uninterrupted communications capability.

For navigation, we are equipped with two Flight Management Computers which receive position information from three ring laser gyros, backed up by two GPS units. The FMCs use VORs and DMEs on the ground to calculate where they think we are as well. In fact, the FMCs are so smart, that we do not enter VOR frequencies or ILS frequencies. We simply verify that the FMC has entered the right frequency by looking for the proper ID on our Navigation Display. In an emergency we can enter or override a VOR or ILS or ADF frequency.

We usually land the 747 at about 530,000 lbs. 340,000 lbs. below our takeoff weight. With its huge wing, ground effect has a great impact on the quality of landings. In fact, the 747 is probably the nicest landing airplane I have flown. Which is good for a guy who gets an average of one landing every couple of months.

You might recall from Part 1 of this article that I mentioned upswings and downswings in my career. I am riding out a downswing. I have been bumped from the 747 and will be trained to fly the 777 in the next few months. There is a high likelihood that I will be bumped again to the 767.

Let me know if you have any specific topics you'd like me to cover in a future article. ❖