The official publication of DVA's MD-88/90 Program

October / November 2006

The Mad Dog "Growl"

Sometimes the bite is as bad as the bark

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...and more!

Delta MD-88 preparing for departure – Trent Shoemaker

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Photo & Screenshot Credits:

- Tyron Weston
- Larry Foltran
- Trent Shoemaker
- Trevor Bair

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Volume #2 – Issue #7

On the Cover:
Cruising to DTW – Larry Foltran

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From the Editor

By: Larry Foltran

As I put together this month's edition of the Mad Dog Newsletter, I took some time to re-read some of the back issues. I also realized that I failed to acknowledge our 1-year anniversary back in August. So, we're into our second year of the newsletter and the biggest problem I've encountered is the lack of time to put the whole thing together. You may wonder how much time it really takes to put together a 10-15 page newsletter. In reality, it takes quite a bit.

I still feel that the newsletter is helpful to our pilots. Each issue enjoys a large download distribution via the DVA site and md88online.com. For those reasons, I feel that this newsletter should continue. But for my sanity, I find it necessary to return to the release format implemented during this past summer. As you may have noticed, this issue covers both October & November. Future editions will be released near or at the mid-point of the two month period it covers. The next issue will be the December/January edition and will be released near January 1st.

I hope that modifying the release schedule, we will be able to provide a more robust edition every other month. As usual, we are always open to topic suggestions or guest writers.

So without any further delay, enjoy the newsletter…

Trevor Bair

McDonnell Douglas MD-90

MD88/90 Program News

Mad Dog Resources

As many of you may know, back issues of this newsletter and other resources are available for download at www.md88online.com. Check it out!

* * *

Guest Writers Welcome!

Do you have an idea for an article topic? Would you like to submit an article for the next issue of the Mad Dog Newsletter? Please contact Larry Foltran (delta1679@sbcglobal.net) to submit your idea. You will of course be credited for any information you send in.

* * *

Wanted – Mad Dog Screenshots!

We're always looking for excellent and unique screenshots or photos. If you have one that we can use in the newsletter, please send it in. (delta1679@sbcglobal.net) All submissions must be your original work. Please do not submit screenshots you have not taken or photos from online aviation photo sites.

Recent Promotions

Every month, we like to acknowledge our Mad Dog pilots who have completed all of the requirements necessary to wear the extra stripe. Congratulations to all on your promotion.

September

Mamadou Kebe (DVA3206) – Captain
Kreigg Yearwood (DVA3426) – Captain
Karl Kapadia (DVA3484) – Captain
Stephen Rotenberry (DVA3380) – Captain
Lloyd Dickerson (DVA3095) – Captain
David Kaser (DVA3233) – Captain
Marcus Anderholm (DVA3489) – Captain
Scott Windham (DVA3501) – Captain
Joshua Sheppard (DVA3539) – Captain
Juan Garcia (DVA3396) – Captain
Jamie Roantes (DVA3554) – Captain

October

Tom Housworth (DVA3572) – Captain
Christer Johansson (DVA3407) – Captain
Kevin Cowan (DVA3529) – Captain
Dane Everitt (DVA3569) – Captain
Charles Blackburn (DVA3328) – Captain
Charles Martin (DVA2568) – Captain
Tom Giovannellli (DVA309) – Captain
Kusan Mcgill (DVA3538) – Captain
Chris Sikes (DVA3161) – Captain

Mad Dogs In The News

DENVER - A Delta Airlines flight landing at Denver International Airport made an emergency landing Wednesday evening.

Flight 1636 had a problem with its nose gear where it would not go down and the plane had to land with the nose gear up.

There were some sparks when the plane landed, but authorities say there were no injuries.

DIA sent buses to the tarmac to bring the passengers on board the flight to the concourse, according to DIA spokesperson Chuck Cannon.

There were 146 passengers and five crew members on board the plane which was coming to Denver from Salt Lake City.

Passengers say they circled the city several times before the pilot told them he would have to land with the landing gear up.

"It was scary," said Erica Smith, a passenger. "The pilot did a really good job though, reassuring everybody and calming them."

"We just braced and we got here," said Sylvia Lawson, another passenger. "The pilot was awesome. I'd fly with him any time. It was one of the smoothest landings that we've ever had flying. It really was. I've had landings where the landing gear was down and it was bumpier."

"Actually, what freaked everybody out is he (the pilot) said, 'I'll see you guys on the other side' right before it happened and he's like, 'I meant on the ground,'" said Smith's husband, Tyler.

The flight was scheduled to arrive at 6:24 p.m. and landed at around 6:40 p.m.

Passengers say many of them cheered when the plane landed and the pilot came into the cabin and talked to them once they were on the ground.

One passenger says the pilot told them he has trained for 200 different types of emergencies and that this was his first.

A spokesperson for Delta says a maintenance crew plans to look at the plane.

Denver News
Exact source unknown.

What Every Virtual Pilot Should Know

By: Larry Foltran

It took only a short time at DVA for me to realize that this virtual airline greatly encourages its pilots to learn more about aviation. Although sometimes a source of frustration, DVA's use of exams in fact pushes members to expand their aviation knowledge. During my early DVA days, I learned something new each time I took an exam. Keep in mind that this is coming from someone who had to take the 757 Captain exam four times before finally passing. Every new tidbit we learn not only expands our appreciation for the hobby we love, but it also helps us complete each flight more realistically. I would assume that this is the goal of 99% of flight simmers.

This month, I decided to outline some of the basic pieces of information that every virtual airline pilot should know. These areas are sometimes taken for granted, but are necessary in each flight. So enough with the lead in. Let's get to it.

General Speed Restrictions

We deal with speed restrictions every time we sit behind the wheel of a car. Although, if you live in the Detroit area, these are sometimes looked at as mere suggestions then limits. Regardless, they are there to be obeyed and followed. Airline pilots face similar limits as well. The most general speed restriction is 250 knots or less when below 10,000 feet. Unless specifically instructed to exceed this restriction by ATC, pilots need to watch their speed carefully during climb and plan ahead during descent.

In the MD-88 or MD-90, planning ahead during your descent to ensure that you will be at 250 knots once you reach 10,000 is the best way. But there are situations in which you may have a tough time slowing down. Don't be afraid to use a little bit of spoiler to bleed off some extra speed. Keep in mind that once you have deployed your flaps, spoiler use is not allowed until you are on the runway and they are deployed to stop the aircraft. You can also utilize your slats and flaps to create drag and slow the aircraft down. Although drag is simply a by-product of the flap's main purpose of producing lift, they can greatly aide in speed control. In the MD-88, flaps can be partially extended once below 280 knots.

Aircraft Lights

The lights on the aircraft serve many different purposes. Some help other aircraft see you, some alert the ground crew to engine startup and others simply help you see at night. Let's take a look at each area, their purpose and use.

Red Beacon – The red beacon light is located at the top and bottom of the aircraft. It is activated at the gate, just prior to engine start or push back (if engine start will be done after the push.) This "blinking" red light informs the ground staff and pilots in other aircraft that your aircraft engines will be starting soon. On arrival, the red beacon should remain on until the engines have been shutoff. During night time operations, this light is left on throughout the flight. During daytime, usage is at the pilot's discretion above 18,000 feet.

Navigation lights – These are the colored lights on the wing tips. Navigation lights should be on when the aircraft is active or in motion. Night and daytime usage is similar to the red beacon light.

Taxi/nose gear lights- These lights are used primarily on the ground and help the flight crew see at night as a car headlight would. They are also used during the approach, once the gear have been extended.

Strobe lights – The strobe lights are also located at the wing tips. These are very bright, blinking lights that serve as recognition lights. They are activated as you enter the active runway and normally stay on throughout the flight. Similar to the red beacon and nav lights, daytime usage is at the pilot's discretion. Keep in mind that these are very bright. If flying through cloud cover at night, these can cause visibility problems and can be turned off briefly in these situations.

Landing lights – Ironically, landing lights are used during take off as well as landing. They are normally activated as you enter the active runway and are turned off prior to or as you exit the active after landing. During the climb, the landing lights are left on until the aircraft reaches 10,000 feet. During descent, they are activated when passing 10,000 feet. These serve as recognition lights and to improve flight crew visibility. Landing lights are used as described in both day and night operations.

Transition Altitude

Transition altitude in the U.S. is 18,000 feet MSL. This is the point where the pilot switches the altimeter from local pressure to standard pressure during climb and from standard to local during descent. As an example, let's say we are taking off from Atlanta. ATC informs us that, "Atlanta altimeter is 30.10". To ensure that all aircraft below transition altitude will be on the same page in terms of altitude, we set our altimeter to 30.10. Once we climb past 18,000, we set our altimeters to 29.92 (U.S. standard pressure). During descent, we are given the airport's local barometric pressure so we can set our altimeter once we cross 18,000 feet. Remember, unless flying outside the U.S., the magic number is 29.92.

Pitot Heat and Anti-ice systems

Despite being two somewhat different systems, pitot heat and anti-ice seems to cause a lot of confusion. One is always used, the other is only used when conditions call for it. The pitot tube is one of the items that measures airspeed. If this piece of equipment becomes blocked with ice, your airspeed indicator will read zero. To prevent this, pitot heat is used to keep any moisture from freezing inside the tube. Because this is such a crucial piece of equipment, the pitot heat is left on while the aircraft is in flight regardless of moisture or temperature conditions. This is normally activated prior to takeoff and shut off during the taxi to the gate.

The aircraft's anti-ice system prevents the buildup of ice on the wings, vertical stabilizer, windscreen and engines. These systems are discussed in more detail in the December '05 issue of the Mad Dog Newsletter.

These are just a few of the basic items that every virtual pilot should have in his or her knowledge base. We are all involved in a hobby that can be enriched and improved by a variety of things. New airplanes, scenery or other add-on tools make our flights more enjoyable. Operating like the professionals do is included in this list for many of us. Making sure you know these "must knows" sets a good foundation for other skills you'll learn in the course of your regular flight routes or in the DVA Academy…how's that for a shameless plug George? ☺ ✈

Flying the Shuttle…Delta Shuttle

By: Tyrone Weston

Hello once again. Most of you know of me. For those who don't. My name is Tyrone Weston, ACP for the MD-88/90s.

Today we will spend our time up in the northeast part of the country. So if you want to fly along while you read this, go ahead and fire up FS and load up your MD-88.

We are starting our 1st leg at Reagan National (KDCA). Follow the link (http://www.metwashairports.com/_/Image/_/dca_terminal_map_large.gif) to see where to park at.

Today we are flying Delta Shuttle flight 1952, from Reagan National (KDCA) to New York, La Guardia (KLGA). Our trip starts with us parked at gate 18 at KDCA. Your Captain today is Tyrone Weston and his FO is Tyra Weston.
Tyra has some 200 hours under her belt. Not bad for a 7 year old. She will be the Pilot flying the ship today. I'll take over on the descent and landing segment. Tyra just completed her walk around and the dog is ready to growl. We have a full boat today with 134 passengers, 4 flight attendants and your 2 pilots.

Flight Planning.
****
Our release is up and we look over the numbers.

Trip distance is 197nm and we will round it to 200nm. Our total fuel will be 12,045 lbs. You can get your numbers by looking on page 8 of the MD88/90 manual or read the Fuel Planning article in this issue. Since we have 134 passengers in the bag, I am going to increase the load by 3000 lbs just in case we have a ground stop or have to circle the Big Apple. That brings our adjusted load to 15,045 lbs.

Next step is the flight plan. How do we get there? I used a flight plan off flightware.com. From wheels up to wheels on, our flying time will be 45 minutes.

Flight plan.
****
DAL1952
Departure time: 12:30pm
Arrival time: 1:59pm
Route: PALEO V44 AGARD KORRY3
Cruise Altitude: 19,000
ETE: 45Min
Alternate: KPHL
Departure Gate: 18(KDCA)
Arrival Gate: SH4 (KLGA)*
* SH4 - DELTA SHUTTLE TERMINAL AT KLGA

I use FSmetar to get the current weather conditions.

KDCA 241752Z 29019G28KT 10SM BKN060 11/M03 A2991 RMK AO2 PK WND 30028/1749 SLP127 T01061028 10106 20050 58005
KDCA 241652Z 31020G30KT 10SM BKN050 BKN250 09/M02 A2992 RMK AO2 PK WND 31030/1650 SLP131 T00941022
KDCA 241552Z 32017G25KT 10SM BKN050 BKN250 08/M02 A2994 RMK AO2 PK WND 28028/1541 SLP137 T00831022

KLGA 241751Z 32017G22KT 10SM FEW050 SCT060 BKN100 11/00 A2968 RMK AO2 PK WND 31026/1718 SLP049 T01110000 10111 20072 55007
KLGA 241651Z 31015G23KT 10SM SCT055 BKN095 11/M01 A2967 RMK AO2 SLP048 T01111006
KLGA 241551Z 30017KT 10SM FEW035 SCT090 10/M01 A2969 RMK AO2 SLP054 T01001011

KPHL 241754Z 31016G24KT 10SM BKN050 OVC070 09/M03 A2978 RMK AO2 PK WND 30026/1722 SLP085 T00941033 10094 20044 58007
KPHL 241654Z 30015G24KT 10SM BKN050 09/M03 A2979 RMK AO2 SLP088 T00941028
KPHL 241554Z 31016G27KT 10SM OVC050 08/M02 A2981 RMK AO2 PK WND 32027/1552 SLP094 T00831022

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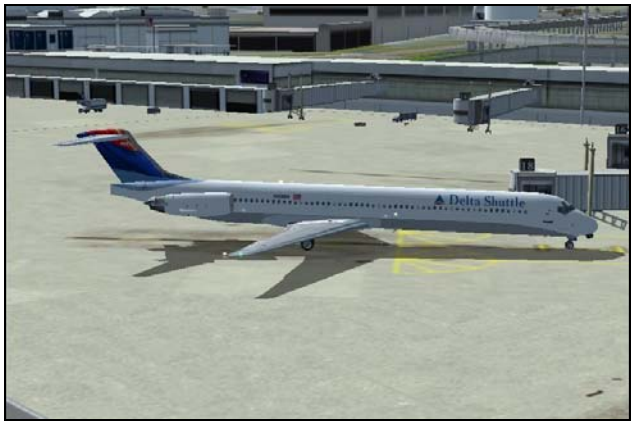
Okay, 10 minutes till push so Tyra and I run down the checklist. We let the ramp know they can disconnect the GPU because we now have the APU on. We plan to taxi out on one engine to conserve fuel. Flap and Slats will be set to 15 degrees. Auto brakes are set at RTO. Since it's cold out there, we make sure to turn on our anti-ice protection (Mad Dog Newsletter Dec 05/Jan 06 & Feb 06). We will De-ice if needed. Red beacon on. Altimeter checked and cross checked.



Our lead FA has just advised us that there are 134 souls on board. The aircraft is ready to go. Tyra welcomes everyone aboard via the PA while I get clearance from the tower to push. Tyra releases the parking brakes and advises the ramp we are ready to push.

The Ramp replies that we are cleared to start our number 2 engine. The Ramp informs us that our push back is complete. I set the brake and Tyra calls Ground at 121.7 for taxi clearance.

"Taxi via J to runway 1." As Tyra reads back the taxi clearance, she waits for the tow bar to clear the ramp. She advises the ramp that they may disconnect the interphone and salutes the rampers as we begin our Journey.

It's a short taxi to the end of runway 01. If you didn't notice on the metar, it is quite windy today so the seatbelt signs will stay on during the entire flight. I contact the tower on 119.1 and we are instructed to position and hold on runway 01. We are number one for take off.

We go over the take-off checklist and start our number one engine. I advise the Folks in the back to take there seats. Tyra lines up on runway 01. If you've never flown into or out of KDCA, you need to be aware of the restricted airspace immediately past the river at the end of runway 01. We can not penetrate this area. Check your charts carefully to make sure you are familiar with the departure procedures out of this airport.

We will follow the Potomac River out and receive vectors to or first waypoint which is PALEO. Tyra spools up the engines and releases the brakes. We lurch forward and down the runway. As we gain momentum, we pass 80 knots which is called out verbally. Also called out is V1 at 130 knots and VR at 144 knots.

As we take to the sky, she banks the plane to the left to follow the river. Climbing, we are promptly cleared up to 19,000 thousand feet. Within 5 miles, we are instructed to fly heading 315 for 5 miles and to contact Washington Center. Once with Washington, we are cleared on course. Delta 1952 replies with the read back.

Tyra, our First Officer, is doing a pretty good job getting us up to 19,000 feet. As expected. It is a bumpy ride with the wind bouncing us all around. Coming up on KPHL, we can not see a thing on the ground due to the dense cloud cover. Here is where I take over as Pilot In Command (PIC).

Nearing HOLEY, we begin our descent via the KORRY3. We will descend to 10,000 feet and 250kts and we are expecting Runway 31 for the arrival into KLGA. We advise the passengers and crew to remain seated during the remainder of the flight and we will be on the ground in 15 minutes.

Crossing 15,000 feet, Washington Center hands us over to New York Approach on 120.8. "Good afternoon New York approach. Delta 1952 with you, 10,000 feet on the KORRY3."

App gives our arrival instructions and altimeter is 29.68. Winds are 240 at 13 knots gusting to 24 knots. Temp is 13 degrees C / Dew point 1 degrees C. Information X-ray is current. As we being to see Manhattan, Approach instructs us to "descend and maintain 8,000. Direct to the Lady and follow the River."

"Roger, descend and maintain 8,000. Direct the lady and up the river, Delta 1952"

We are still in and out of the clouds at 8,000 and we continue to get bumped around.

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KLGA
Airport Communications
UNICOM: 122.95
ATIS: 125.95 ARRIVAL 127.05 DEPARTURE
WX ASOS: PHONE 718-672-6317
LA GUARDIA GROUND: 121.7 263.0 121.85
LA GUARDIA TOWER: 118.7 263.0
NEW YORK APPROACH: 120.8 118.0 124.95 127.3 128.8(FINAL) 132.7
NEW YORK DEPARTURE: 120.4 124.45 127.05
CLEARANCE DELIVERY: 121.875 HELICOPTER 135.2
PRE-TAXI CLEARANCE: 135.2

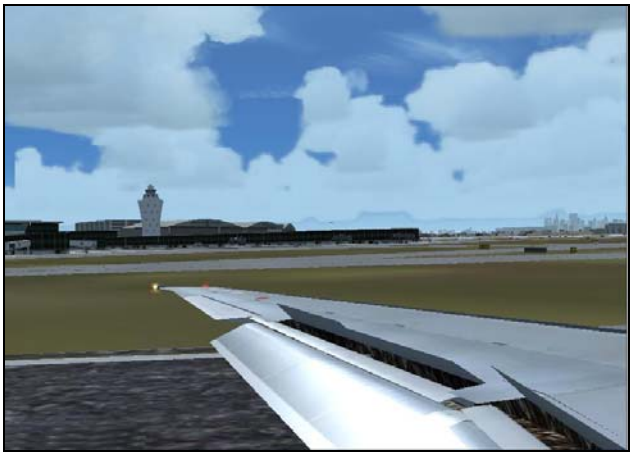
****

Once we pass Central park, we are told to descend to 5,000 and call the airport in sight. As we look out of the right window, we see KLGA. "New York approach, Delta 1952 has the airport in sight." He clears us downwind for the visual approach on runway 31.

After a short down wind, he gives us our base turn and tells us to call the La Guardia Tower on 118.7. "Roger. Tower on 18.7. So long 1952." We switch over to tower, "Tower Delta 1952, short final for the visual 31."

"Winds are variable at 14 and gusting 24. Cleared to land 31."

While I was chatting with ATC, Tyra was letting out the flaps and dropping the gear. I bring the bird over the numbers at 140 knots and a nice smooth landing despite the winds rocking us from side to side. I stop short of 22/4 and taxi off the runway at "T", contacting Ground on 121.7.



Ground gives us taxi instructions, "Taxi Papa, cross 22 no delay, left turn on alpha-alpha to the gates." I read back the taxi instructions and we get to moving.

The after landing check list is gone over and we can hear the flight attendant giving the gate arrival briefing. We are coming on to the ramp and getting marshaled into our gate. I shut down engine number 2 as I move slowly on to the guide line, we get the crossing of the wands which means for us to stop. I set the brakes and give the "connect ground power" signal to the ramp. We shut down the number one engine once I get a good

connection from the ground power. The seat belt sign goes off and the main cabin door is opened shortly there after.

It was a short, but a fun trip. We hope you enjoyed this Father and Daughter flight crew. Next trip, she will pick our destination. Let's hope it's not back to Vegas. LOL

Enjoy your stay in the Big Apple and fly safe.

DVA MD-88 Overview

By: Larry Foltran

I've recently received a few emails with questions about the MD-88 version in the DVA installer. Because all of my flights are flown with a payware version of the MD-88, it had been quite some time since I took the DVA version up for a spin. As a result of that, I had no clue how to answer those questions and realized it was time for me to dust off the DVA MD-88.

This month, I've decided to put together a brief overview of the DVA Installer version of the MD-88. I'll touch on some of the question areas and hopefully solve any issues some of you are having with the panel.

DVA's Luke Kolin has done a great job putting together the installers and including the best freeware panels that he's been made aware of. He's even customized some of these with his own ACARS gauge, integrating another outstanding tool we have available here at DVA.

Unfortunately, I've never had the opportunity to take try out a real MD-88 or even a full motion simulator. Because of that, the only point of reference I have is the payware panel I use. Based on the fact that the main focus of payware products is to offer an accurate representation of the actual aircraft, I would assume the panel I use is realistic and accurate. That being said, most of my comparisons will be using the payware panel as a point of reference. If any of you have

access to a full motion simulator, I'd like to chat with you as well. ;-)

The DVA MD-88 is laid out very much like the actual MD-88 and some of the panel functions have been included. The left side of the panel has the standard aircraft gauges; altimeter, airspeed indicator, etc. To the lower left, are the cockpit lighting switches which are selectable. I'm not going to go over the engine display gauges, as these are pretty generic. We will start with the flap indicator, which is to the lower right of the engine displays and to the left of the fuel quantity displays. The flap indicator shows your current flap position. Based on the information provided with the panel, the colored display to the right should display when the flaps are in takeoff position or landing position. Unfortunately, it always shows "disagree" for me and I haven't been able to solve this issue.

Above the fuel quantity display is the Thrust Rating Indicator (TRI). The Thrust Rating Computer (TRC) uses the pilot's input to calculate the necessary engine thrust while the auto throttle is being use. The TRI on this panel is a slightly simplified version, but it does work. Selecting TO/GA will adjust the engine power during takeoff.

Directly below the flap indicator is the autobrake system. By using the numbered dial, you may select how much brake power to be used during landing or during a rejected take off. I'm not going to cover what settings to use in what conditions at this time. Maybe a topic for a future issue.

Next we'll go over the autopilot or center area of the glareshield. Starting on the far left, we have the landing light and nose gear light switches. These should be pretty straight forward. But immediately to the lower right of these is a switch that is often missed. This is the NAV/GPS switch. Because this panel does not have an FMS, it looks to either the nav radio or the FS GPS system. If you have created a flight plan within the FS Flight Planner and loaded it properly, it should be stored in the GPS. While this switch is toggled to GPS, your autopilot will follow that path. If the switch is on NAV, it will operate as a normal navigation radio does and will follow the VOR or ILS signal.

To the right of this area is the NAV1 frequency selector and course selector. This is where you should tune in the ILS frequency. Based on the information shown on the ILS chart for the specific runway you will be landing on, you will need to tune in the frequency and course in the next selector. After that, you would select either LOC (to follow the localizer alone) or ILS (to follow the localizer and glideslope). Make sure you have the NAV/GPS switch toggled to NAV. Your autopilot and flight director (F/D) switch will also need to be activated.

Moving along to the right is the SPD SEL and MACH SEL buttons. Obviously, the speed selector is used while flying under KIAS and the MACH selector for Mach speed. Immediately below the MACH selector is the Heads Up Display (HUD) switch. The HUD system is actually a two part toggle. Clicking this switch will only turn on the display and you will have the green display "hanging" in front of you. The frame of this display can be toggled as well using shift+5. You can actually toggle both in succession by selecting shift+5 and then shift+6. I personally find the HUD annoying and have only used it once.

We're now going to skip over to the YAW selector further to the right. This is actually the Yaw damper which will result in an error when not on at less than 250 knots. In reality, this selector should be located in the overhead panel. But the panel author placed it in a very convenient location that can be easily accessed.

Now on to the overhead panel. This is a very simplified version of the actual MD-88 overhead panel. The use for some of the controls here are pretty obvious, but some are not. We'll start immediately to the right of the cabin sign switches. The first set is the air foil ice protection system. In the actual MD-88, there is only one switch that activates both sides. In this case, you are given a right side and left side toggle switch. These are used when icing conditions exist. The next set consists of the windshield anti-fog and anti-ice switches. The anti-fog system is normally only used when necessary. The windshield anti-ice system is activated before departing and is left on until on the ground. Next we have the engine anti-ice system. These are separated into left and right engine switches and are activated in certain conditions. In the real MD-88, engine power is slightly reduced while these systems are on. I honestly did not check to see if this panel simulates this or not. The last switch in this group is the pitot heat switch. If the plane is off the ground, this switch should be on.

To the right of the anti-ice switches is the rain repellent and wiper group, followed by the navigational lights and strobe lights. Located on the far right is the overheard interior lights control.

The mid-right and upper right region of the overhear panel contains the pushback gauge and the cabin pressure gauge. I honestly find it easier to hit shift+P for pushing back, but that's a personal preference. I also did not play around at all with the cabin pressure gauge, so I won't comment on that. Everything else should be pretty straight forward. If not, select it and see what happens. That's the beauty of FS.

This panel also features a good representation of the TCAS panel with a test function. This area can be accessed by hitting shift+3 and includes the transponder selector.

I decided to make a quick circuit around Atlanta to test this aircraft out. Compared to the payware version, I noticed that this aircraft needs quite a bit of speed and runway to get off the ground. It seems to fly more like a 747 than a MD-88 (again no actual experience in the front seat of either). Keep in mind that you will get a "Spoiler Extd" warning when you make a tight turn.

The circuit around the airport was very straight forward and uneventful. I played around with the autopilot a bit and it seemed to work without any major issues. The approach was pretty straight forward as well. Again, the plane seemed a bit heavy in the handling. It was somewhat tough to slow down while descending, even with partial flap extension.

I noticed that the final approach speed needed to be quite a bit slower than the average 165 to 180 knots normally used. Touchdown was made pretty far down the runway, after floating that distance. The

autobrakes and reversers worked great to slow me down in time.

All in all, this is a very nice version if you don't feel like spending cash on a payware version. It does take some getting used to though. The model looks great as well. The installer features some great liveries, including the Delta Shuttle version. So download it and take it for a spin. You've got nothing to loose! ✈

Fuel Planning

By: Larry Foltran

I think it's hard to dispute the fact that proper fuel planning is a very important part of pre-flight activities. Every day, there are folks in this world that take a handful of variables into account to calculate how much fuel those engines will suck up getting from point A to point B. Of course it's much easier to simply say "fill'er up!" to the ground crew and not have to worry about having enough fuel to reach the destination. A pilot in that position would have bigger things to worry about including being over take-off weight, how that fuel laden aircraft is going to lumber into the sky and if that aircraft will be over its landing weight at the destination.

In the virtual world, the consequences from overloading our aircraft aren't as serious and, in some cases, not as noticeable. But in keeping with our favorite motto "As Real As It Gets", most of us try to strike that balance between arriving safely at our destination and having to explain to your virtual passengers why you are landing somewhere in Oklahoma when they were bound for SLC. Although there are many freeware and payware options out there, in this article we will go over a few different options for fuel planning available to DVA pilots.

The first method is to simply pull out a calculator and figure out your fuel load manually. As with most other things, there is

a simple method and a more complex method when calculating manually.

The easiest method uses the basic fuel burn rate factor of 13.35 lbs per nautical mile and the base fuel load of 4,500 lbs. Keep in mind that we are not dealing with liters or gallons when calculating fuel. Fuel load is calculated in pounds. We then plug that information into the equation below:

(Fuel Base + (Distance * Fuel Burn Rate)) = Fuel Load.

So as an example, we'll say that our flight today is from Cincinnati (CVG) to Atlanta (ATL). The distance of this route is about 374 nautical miles. Let's look at the equation with those numbers plugged in:

(4,500 + (374 * 13.35)) = 9,493 lbs of fuel

Nice and simple, right?

OK, now let's look at a more complex method that takes into account the different phases of the flight. In this example, we will use the same fuel burn rate and base load as shown above. But this time we will add a few more:

Taxi Fuel: 440 lbs
Contingency: 1,100 lbs
Final Reserve (30 minutes): 2,000 lbs

These are simply average amounts, but seem to work well in the vast majority of cases.

We also need to figure in our alternate airport selection (alt distance * fuel burn rate).

Our fuel equation will also change to accommodate these variables:

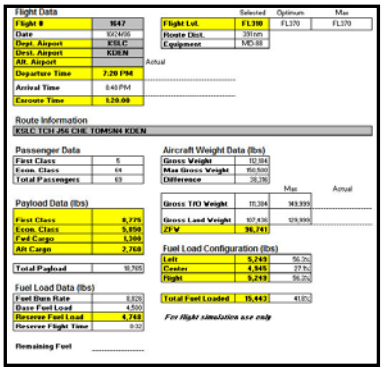
(Fuel Base + Taxi Fuel + Contingency + Final Reserve + Alternate + (Distance * Fuel Burn Factor))

Using the same example as before, here is what we get:

Fuel Based	4,500 lbs
Taxi Fuel	440 lbs
Route Fuel	4993 lbs
Contingency	1,100 lbs
Alternate (80nm)	1,068 lbs
Final Reserve	2,000 lbs

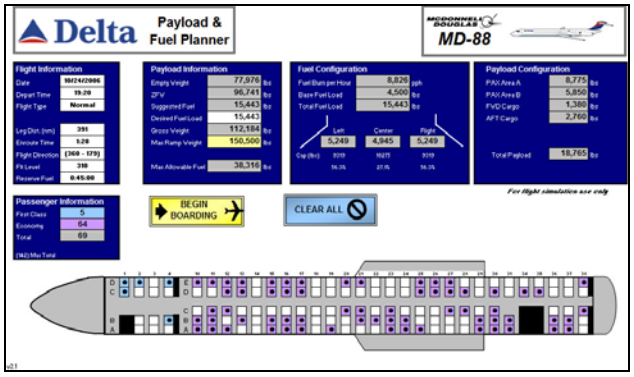
We add all of that together and we get a grand total of 14,101 lbs for our trip. That may be slightly excessive for our purpose, but it's more realistic than the previous method. These examples can also quickly be modified based on the flight scenario. For example if you are flying in a DVA event where you can expect plenty of traffic, you may want to include the extra taxi fuel and contingency fuel figures in your calculation. If you are expecting a straight forward flight with light traffic and weather is perfect all around, you can go with the first example. Always remember that you are the PIC and the praise or blame ultimately falls on you. No pressure though.

The next method is more an automated way of calculating fuel via an Excel spreadsheet. Excuse the plug, but I am referring to the fuel planners that appear on the DVA site and at www.md88online.com . These fuel planners take into account the flight time and season to calculate your passenger and luggage load. From there, it takes the route information and your cruising altitude to calculate your necessary fuel load. The spreadsheet also distributes the desired fuel load between the three fuel holds on the aircraft. All that is left for you to do is to enter the fuel amount and payload into Flight Simulator. The second tab of the planner features a data sheet that displays all of the fuel load information and route for your upcoming flight. This is a great reference sheet to have on your desk during the flight.



The MD-88/90 planner was designed to work with the DVA Installer model. I also have a personal version that is geared towards the

JCA/Mad Dog merge that has not yet been "released". I've been tweaking it a bit lately and hope to post it on the site in the next few months.



I have slowly been working on some enhancements and new features that I intend to release in a new version of the planner. But of course, the completion date is directly related to the amount of time I have to devote to it. Although most of the new items are still evolving, one that is almost complete is an automatic distance and direction function. This will basically allow you to select your flight origin and destination (US airports only) and the planner will automatically fill in the proper flight heading and distance. As I said, there are quite a few other enhancements, but you'll have to wait to find out what they are. ☺

The final fuel planning tool I'm going to cover is DVA's ACARS system. As I recently learned, there are two different versions of ACARS available to our pilots. The first is the basic ACARS version (Build 71) that we've been using for some time. The new version is called ACARS Technology Preview Edition (Build 74). This version contains several enhancements and is meant to offer a preview of ACARS 2.0. From what I understand, bugs may still exist in this version, but user feedback has been helping in the development of this tool. The ACARS TP Edition features a fuel loader/planner for certain aircraft. I don't believe the MD-88/90 profiles exist in this version of ACARS but it may be forthcoming. It also gives you the option to create a new profile. Honestly, I haven't used this feature and have only been using this version of ACARS for a short time.

But this could be another great method to calculate fuel load for your trip.

As I mentioned earlier, one major reason for proper fuel planning in FS is to keep it as realistic as possible. But the performance of your aircraft will also be affected by fuel load. If you simply load up your aircraft with 100% fuel, you will notice that it will be sluggish during the climb and you'll need to greatly reduce your climb rate to maintain proper speed. Once at altitude, extra fuel will mean extra power needed to maintain that altitude. That in turn means greater fuel consumption.

Although I don't believe it is simulated in FS, the aircraft's take off weight and landing weight limits should also be adhered to. Each aircraft manufacturer supplies the maximum take off weight and landing weight for their products. If the take off weight is exceeded, you may not get off the ground. If the latter is exceeded, the aircraft will suffer serious damage during landing. Pilots pay close attention to both in the real world and your FS experience can be enhanced by doing the same.

So whether you use a calculator, a piece of software or your magic 8-ball to decide your how much fuel you'll need, taking the time to accurately plan your fuel load will enhance your FS experience and provide a greater sense of accomplishment…especially if you don't run of fuel before getting there. ✈