

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

September 2006

The

**Mad Dog**



**"Growl"**

Sometimes the bite is as bad as the bark



***In this issue:***

***The Anatomy of the Jet Engine***

***Plane Spotting at CVG***

***Roaring Out of Motown***

***...and more!***

Volume #2 - Issue #6





Delta MD-88 loading up in Detroit – Larry Foltran

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## September 2006

### Volume #2 – Issue #6

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Takeoff from Boston – Joshua Westbrook

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## 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](http://www.md88online.com). Check it out!

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### **Lago Mad Dog Panel Training Sessions**

We've recently been receiving quite a few questions and requests for training in the Lago Mad Dog panel. Starting in August, we will be putting together some sessions on a trial basis. These sessions will be made up of 2 or 3 pilots and an instructor and will be conducted on Vatsim. Communication will be handled either via Windows Messenger or Yahoo Messenger. Sessions will be held in the evenings after 8:00pm and will be dependant on instructor availability. If these trial sessions go well and there is enough interest, scheduling will continue and the format will be adjusted accordingly.

The sessions will consist of a short flight in the MD-88 or -90. Prerequisites include a registered copy of the Mad Dog panel, Squawkbox, Windows or Yahoo Messenger and established experience in online flying. Please contact Larry Foltran ([delta1679@sbcglobal.net](mailto:delta1679@sbcglobal.net)) if you are interested in attending. Slots are limited and it is 100% "first come, first serve".

\* \* \*

### **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](mailto: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](mailto: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.

Dinko Residovic (DVA3366) – Captain  
Tom Boudreau (DVA3320) – Captain  
Animesh Hajela (DVA3370) – Captain  
Bob Baker (DVA3403) – Captain  
Guy Evans (DVA3411) – Captain  
Lance Gomes (DVA3390) – Captain  
Fernando Razo (DVA3408) – Captain  
Zach Saxman (DVA3418) – Captain  
Pablo Vazquez (DVA2313) – Captain  
Andre Reihani (DVA3394) – Captain  
Ian Hunter (DVA3448) – Captain  
Miguel Hernandez (DVA3199) – Captain  
Marc Brown (DVA3288) – Captain



## Mad Dogs In The News

### MD-80 Accidents from 2006

This article is from [www.md80.net](http://www.md80.net)

*I found this post on and thought it was an interesting read. Some of the incidents on this list are very odd. Thankfully, the majority of the incidents resulted in no injuries to passengers or crew members.*

#### **4 Jul 2006, GENEVA, SWITZERLAND**

Iberia MD-87 from Geneva to Madrid, Spain with 112 pax had a birdstrike soon after takeoff and returned to the airport with damage to one engine.

#### **23 Jun 2006, JUBA, SUDAN**

AMC Aviation (Egypt) MD-83 from Khartoum to Juba overran 2,400 m runway with severe damage to undercarriage and wing. Reg SU-BOZ

#### **20 Jun 2006 CHICAGO, USA**

American MD-82 from Los Angeles to Chicago with 131 pax landed without the nose gear extended. The landing was handled well with fuselage damage to the plane, but no injuries.

#### **28 May 2006 AMSTERDAM, NETHERLANDS**

Scandinavian SAS MD-82 from Copenhagen to Denmark had turbine surge and damage at FL310, diverting to Amsterdam. Landed safely. Reg LN-ROS

#### **23 May 2006 LOS ANGELES, USA**

American MD-82 from Austin TX to Los Angeles with 122 pax had a rare in-flight rage accident, when an 80-year-old "very frail" pax attacked a flight attendant and was restrained by a TV star with a black belt in martial arts. No injuries. The old man's onward flight to Singapore was interrupted by a 72-hour observation stay at an LA hospital.

#### **16 May 2006, CATANIA, ITALY**

Meridiana MD-82 from Catania had a "wheel not turning" alarm only 2 kts before Vr rotating speed. The aircraft returned to base and prepared for emergency evacuation. Landing was uneventful and the alarm was contributed to computer malfunction.

#### **13 May 2006, GREEN BAY, USA**

Allegiant MD-83 from Las Vegas NV to Green Bay WI, USA with 115 pax taxied off taxiway at a junction after landing and got stuck in mud. No injuries and no damage to the aircraft.

#### **6 May 2006, NEWARK, USA**

American MD-82 from Dallas to Newark with 121 pax was boarded by police after landing, after four Angolan military officers and one Israeli had started discussing their helicopter training in the U.S. and "reading a flight manuals". The man drew the in-flight air marshal's attention and the plane was cordoned off after landing. Federal agents took over the investigation, but the five men were released three hours later.

#### **8 Mar 2006, MILAN, ITALY**

Alitalia MD-82 from Catania to Milan, Italy with 106 pax declared an emergency due to pressurization problems with a rear door. Landed safely. No injuries.

#### **7 Mar 2006, GOTHENBURG, SWEDEN**

Scandinavian SAS MD-82 from London to Gothenburg, Sweden with 91 pax was subject to robbery after docking on destination. Four men with assault rifles overpowered security guards unloading valuables transport from the cargo hold, after which also a fake bomb bag was left at the airport. The robbers escaped. No injuries.

#### **4 Mar 2006, SURABAYA, INDONESIA**

Wings MD-82 from Denpasar to Surabaya with 157 pax skidded 30 metres off the runway on landing, due to rain and strong winds. Aircraft may be a full loss. No injuries. Reg PK-LMW

#### **28 Jan 2006, BRUSSELS, BELGIUM**

Alitalia MD-82 from Rome, Italy to Brussels, Belgium with approx 46 pax was involved in an approach incident in full visual conditions, where three aircraft lost mandatory separation. The MD-82 was #3 behind an Eva Air MD-11 and a DHL B-757, when ATC advised for a non-standard go-around, which was executed safely. All aircraft landed safely, but the incident got some publicity due to a local political debate about air traffic noise below the approach for rwy 02 at Brussels National.

#### **9 Jan 2006, BARCELONA, SPAIN**

Spanair MD-83 from Bilbao to Barcelona with 90 pax had a landing gear fire after landing on destination. Slide evacuation with five persons slightly injured.

#### **7 Jan 2006, KAGOSHIMA, JAPAN**

JAL MD-90 from Osaka to Kagoshima landed with #1 engine thrust reverser locked, after a mechanic had forgotten to remove a safety pin on the engine. No injuries reported.

## Plane Spotting at CVG

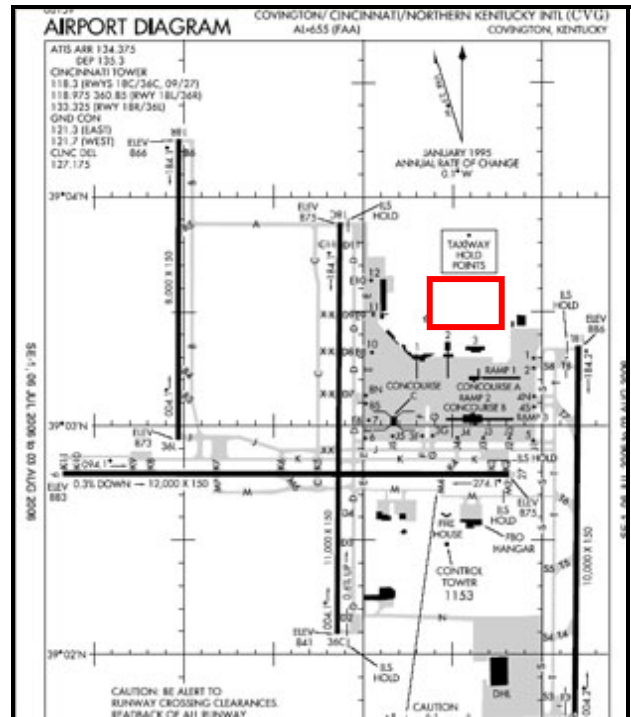
By: Larry Foltran

Back in the June/July '06 issue, I featured an article about a day trip to Detroit Metro Airport (DTW) to do some plane spotting. It was the first time I had done so for the sole purpose of watching the professionals come and go. On a recent trip to Dayton, Ohio for their air show, we decided to make the drive down to Cincinnati/Northern Kentucky airport (CVG) to do the same.

According to their official website ([www.cvgairport.com](http://www.cvgairport.com)), CVG has remained one of the nation's fastest-growing airports for over 10 years, during which time annual traffic volume has doubled to more than 20 million passengers.

Accompanied by my Dad and my cousin visiting from Brazil, we had several disadvantages right off the bat. I had only been to CVG once before, but only during a brief layover. Needless to say, I was not familiar with the area at all. Beyond that, I had no idea where the "prime spots" are around that airport. The decision to drive down to CVG was completely unplanned, so I couldn't check in with our DVA experts. We decided that the best place to try would be the top of the parking structure.

For those of you who are unfamiliar with Cincinnati airport, the parking structure sits to the north of the runway 09/27 and between runways 18/36R & L. (shown in red)



The parking structure offers a good vantage point for runway 18L/36R, but is kind of far from the other parallel runways and the view of 09/27 is obstructed by the terminal buildings. Adjacent to 18L/36R is the Delta Air Lines maintenance hanger. I could barely see the "whale tail" of an MD-88, but no much else.



The traffic was pretty steady and it was a real unique treat to see that many Delta aircraft. The only non-widjet aircraft was a Continental jet that came in. The vast majority of the traffic was made up of regional jets, but there were a few 737s, a pair of 767s and a few Mad Dogs coming and going.

Watching the traffic in person really gave me a sense of how smoothly things seem to flow at this airport. The airport grounds are very nice and look very welcoming. I also had an opportunity to check out the main terminal building briefly and I was very impressed. There is a huge window that offers a great view of aircraft taxiing past the building.



I believe we spent a little over an hour there and could have spent much more. Unfortunately, it was getting late and we still hadn't grabbed any dinner. I was further surprised that our time at the parking structure came to only \$2. Using a popular slogan:

- Gas - \$20
- Parking - \$2
- Spending a beautiful summer evening plane spotting – Priceless.

I've included some of the photos I took during our trip. Enjoy! →





# The Anatomy of the Jet Engine

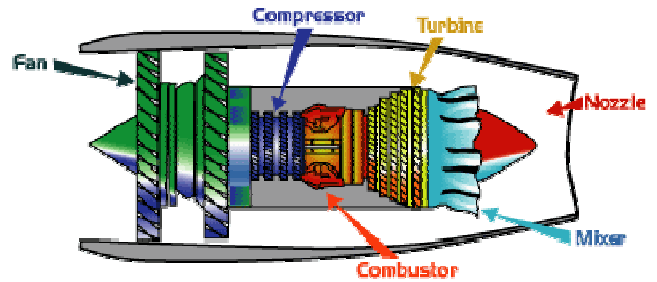
By: Larry Foltran

I'm sure most of us love the rumble of a jet engine as an airliner races down the runway on takeoff. But how many times have you stopped to think how those cylinders mounted to the aircraft can propel the plane enough for it to take flight? In this article, we will be taking a quick look at the history of the jet engine and how it actually works.



The invention of the jet engine has been credited to Dr. Hans Von Ohain (1936) and Sir Frank Whittle (1930). Both gentlemen worked on this project separately and, ironically, never knew about the other's work. Although Hans Van Ohain's jet was the first to fly in 1939, Frank Whittle's version followed soon after in 1941. The core of how a jet engine operates actually lies with Sir Isaac Newton and his 3<sup>rd</sup> law of physics: "For every action there is an equal and opposite reaction".

There are different types of jet engines including Turbojets, Turboprops, Turbofans, Turboshifts and Ramjets. All jet engines work on the same basic principle of sucking air in the front, compressing and igniting it in the middle, and finally blasting it out the back.



The jet engine consists of 6 major parts. The first part is the fan. This is the large fan we can see when looking into the front of the engine. In the cockpit, we refer to this as N1. The blades suck air into the engine and speeds the air up. It then splits the air flow into two paths. One part is guided through the center of the engine and the other is moved to the outside of the engine core. The air is propelled to the back of the engine where it produces much of the thrust. This cooler air also helps quiet the engine.

Following the path of the core air, it next reaches the Compressor. The compressor consists of fans and is attached to a shaft. The compressor compresses the air, resulting in an increase in air pressure. The air then moves on to the combustion chamber.

In the combustion chamber, or combustor, the air is mixed with fuel by a series of nozzles that spray fuel into the air flow and is then ignited. This results in hot, expanding gases which moves into the Turbine.

The high-energy airflow coming out of the combustor goes into the turbine and causes the turbine blades to spin. The turbine blades are linked by a shaft to turn the blades in the compressor and to spin the intake fan at the front. Moving into the cockpit, the shaft rotation can be monitored on the N2 gauge.





The nozzle is the exhaust area of the engine. The air that has passed through the turbine is combined with the colder air that bypassed the core and products force when exiting the engine. This thrust basically pushes the aircraft forward.

Beyond the engine's primary responsibility of propelling the aircraft forward to provide sufficient airspeed for flight, they also help with other essential areas. Focusing specifically on the MD-88, each engine contains a 40 kVA A/C generator, capable of powering the entire aircraft in the event of malfunction in the other generator or APU (Auxiliary Power Unit). During flight, both engine generators provide the electrical power needed by the aircraft. When the engines are not operating, this task is taken over by the APU, another turbine located in the rear of the fuselage.

The engines also provide the air used for the aircraft's air conditioning system. On the MD-88, the right engine normally supplies the air for the cabin and the left is directed to the cockpit, but either pack can supply air to both compartments if necessary.

The engines on the MD-88 features an Automatic Reserve Thrust (ART) system. In the event of an engine failure during a normal thrust takeoff, the ART system increases the thrust on the remaining engine. This reduces the pilot's work load during this critical time. Keep in mind that when using TO FLX, the ART must be switched off.

Although this has been a very quick and high-level look at the modern jet engine, this article should have provided you with a some information that is normally taken for granted by fellow simmers. Next time you're on a flight with a friend, spouse, family member or whatever, take the opportunity to impress them with your knowledge of jet engine. Well...impress or annoy. I can't guarantee which. →



## Roaring Out of Motown Flight Report (DTW to CVG)

By: Larry Foltran

This month's spotlight flight actually isn't even a traditional Delta flight and is normally flown in a different aircraft. But it's a flight I love doing and is within DVA's rules of acceptable flights. We'll be looking at Delta Connection's flight #5226 from Detroit Metro Airport (DTW) to Cincinnati (CVG). Although this route is normally flown by a Comair CRJ, we're going to give the regional jets a break and slide our MD-88 in place.

Our scheduled departure time this morning is 6:05 am, putting us at our CVG gate at 7:15 am. This will be a short 230 nm sprint from airport to airport, which normally translates to a busy time for the folks up front.

Detroit Metro Airport (DTW) sits on about 6,700 acres, south-west of downtown Detroit. The airport features 6 runways, 139 gates and is one of Northwest Airline's main hubs. The airport has been serving the area since its construction in 1929. In 1958, the airport was certified as an international airport and was renamed Detroit Metropolitan Wayne County Airport. Shortly thereafter, the major airlines began shifting their operations from nearby Willow Run airport to DTW. Delta followed suit a year later in 1959.



Most recently, the opening of the state-of-the-art Edward H. McNamara Terminal / Northwest World Gateway

marked a new era for DTW. This beautiful facility has become the departure point for all Northwest flights as well as Air France, British Airways Continental, KLM, Lufthansa, Royal Jordanian, Comair and Delta. Today, we will be departing from gate B18 at the McNamara Terminal.

Preflight planning provides us with the following:

Passengers: 9 first class, 90economy – 99 total

ZFW: 103,912 lbs

Fuel load: 136,315 lbs (5,249 wings, 2,817 center)(4,342 reserve – 45 minute)

Total payload: 25,936 lbs

Gross weight: 117,227

Planned route: KDTW CAVVS VVW ROD CINCEN4 KCVG

Route distance: 230 nm

Cruise Altitude: FL260 (FL370 Optimum)

This is the first flight of the day for this aircraft, so we take a little extra time during preflight to make sure everything is perfect. Not that flight crews later in the day are allowed to slack, but the situation is slightly different when an aircraft has been sitting idle overnight. Preflight goes smoothly as the sleepy eyed passengers board the aircraft. Our clearance is approved by ATC and we are told that we will be using runway 4R this morning. Beyond that, our initial altitude will be 10,000 feet and 5143 will go into the transponder. Thankfully, our assigned runway is a quick taxi from gate B18 this morning. With the doors closed and the cabin secured, we are ready for engine start. Our #2 engine comes to life while we are still at the gate, followed by #1 as we push back from the gate.

Our gate departure time is actually 6:13 pm, putting us behind even before getting in the air. We quickly make our way to runway 4R, but we're forced to sit tight for a little while as ATC takes care of the busy skies overhead.



With the clearance to takeoff given, we quickly read back and push the throttles forward. We clear V1 without any issues and slowly pull on the yoke at VR. We pass 1,000 feet and turn to 030 as instructed, quickly leaving sleepy Detroit behind. The aircraft bumps slightly as we cross through the moderate

cloud cover. Finally, we look to our left and can see the first signs of the dawning sun.

We arrive at our intermediate cruise altitude of FL230 and we're passed along to Cleveland Center. Cleared to FL260, we dial in our final cruise altitude and continue our climb. During my scan of the engine gauges, I noticed that the EGT reading was creeping a little higher than normal on our #2 engine. Nothing to be alarmed about at this point, but we would definitely monitor it closely during our cruise.



We arrive at our cruising altitude of FL260 about 58 nm from the ROD navigational point, which marks the start of the STAR into CVG. EGT continues to read slightly higher than the other engine, but has stabilized. We'll still keep an eye on it though.



As we near ROD, we begin our descent with the intent to cross TIGRR at 11,000 feet. Our weather report shows

good weather at our destination and winds from the east. Unless the situation changes drastically in the next 15 to 20 minutes, we will be landing on runway 09. We take this opportunity to organize our charts and go through the descent checklists.

We cross CHARZ and enter the downwind leg soon thereafter. I notice two aircraft departing CVG, Comair 1053 and Delta 482, and we'll continue to monitor these aircraft until they leave the area. At this point, they will be no factor at all. I slow the aircraft down to 250 KIAS and extend the slats once below 280 KIAS in preparation of our descent through 10,000 and down to 5000 feet. We prepare

for our turn onto the base leg of our approach and check the weather one last time.

As we turn to heading 180, we slow the aircraft to 240 KIAS and continue our flap extension. Nearing localizer intercept, we slow to 190 KIAS and set our systems for the ILS approach. The automated flight system turns the aircraft and we monitor the glideslope indicator as it slowly moves downward. The aircraft captures the glideslope and we slow our aircraft further, bringing the speed back to 165 knots and flaps 40. The information for the missed



approach is entered into the autopilot and crosschecked for accuracy. The gear handle is pulled

down and the First Officer reports "Gear down, green lights". All systems are set for a perfect landing.

A quick push of the button on the yoke and the autopilot is deactivated. The autothrottle is shutoff and I take full control of the aircraft for the remainder of the approach. Crossing the threshold, I begin to flare gently and pull back on the throttle. The aircraft touches down on the runway and I slowly put the nose gear on the ground. The spoilers and thrust reversers are activated and the aircraft begins to decelerate.



We vacate the active runway and make our way to the gate. The lack of any delays during our arrival has rewarded us with a 7:14am arrival time, 8 minutes ahead of time. A perfect way to start the day!  
→

