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GETTING THE JOB DONE!

In the first half of a comprehensive two-part review of the C-17 program, *Combat Aircraft* visits Charleston AFB, home of global reach with the Globemaster.

report: **Dick Wels, Hans Drost** and **Henk de Ridder**

THE US AIR Force airlift community has a great deal more on its plate than just moving cargo and personnel around the world. The active-duty Air Mobility Command, the Air National Guard and Air Force Reserve Command are on constant alert to swing into action in support of anything from conflict support to being life-savers for humanitarian needs. When it comes to the US Air Force, one is used to thinking big. So when it comes to one of its largest aircraft types, in the world's largest air force, it means that basing is on a grand scale. Welcome to Joint Base Charleston — the biggest Boeing C-17 base in the US.

In steamy South Carolina, Joint Base Charleston shares dual runways with Charleston International Airport. Its vast ramp area is hard to miss — the resident 437th Airlift Wing and its Associate Reserve Wing, the 315th AW, come under the 628th Air Base Wing (ABW). Col Jimmy Canlas, vice-commander of the 437th AW comments: 'When Charleston turned into a Joint Base, the 437th AW's Medical and Mission Support Group got put into an Air Base Wing construction. The ABW helps to integrate all the mission partners that are around over here. And when we talk 'joint', we also mean the Navy Weapons Station that is about 12 miles down the road. Our focus now is to push the mission of the wing with our C-17s.

'We share the same aircraft — both of our [flying] units are painted on the noses of our C-17s. The Reserve associate relationship dates from the time we were flying the C-141 Starlifter. In most cases the Reserves share C-17s with the active-duty Air Force. There is only one Reserve C-17 unit that owns its own airplanes, and that's the 452nd AMW at March AFB, California. Their C-17s are flown exclusively by reservists.'

The mission statement of the active-duty 437th AW contains four key elements: safe, precise, reliable, and worldwide. Col Canlas says: 'We always look at these elements if we want to make the mission happen. One, we talk about being safe. We don't ever want to compromise safety. We realize that flying is a dangerous business and when we are flying there are folks out there that may not necessarily agree with what we are doing. We try to do our best to mitigate that risk. Two, we talk about precision. We want to be on time, on target. If we need to get troops and cargo into a landing zone, we want

C-17A serial 89-1192 of the 437th Airlift Wing operating at low altitude near Fort Bliss, Texas.
Don Logan

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to make sure we are perfectly in sync with the ground commanders and hit the drop zone precisely. Three: reliable. That's where our Maintenance Group comes in. They have to maintain 48 aircraft and they do a great job. Although the C-17 is the newest airplane on the mobility side, the airframes are getting older. Last May we celebrated the 3,000,000th flying hour for the C-17, and we didn't think we would hit that milestone this quick. When we originally bought the airplane, we didn't think we would make that many take-offs and landings, but obviously after '9/11' a lot has changed as far as the aircraft usage [is concerned]. That was not calculated into the life cycle of the C-17. [Lastly comes] worldwide. That means anywhere in the world. There is probably only one place we don't go and that's Antarctica. That mission set goes to the folks of the 62nd AW at McChord, our west coast counterparts.'

Last year the Charleston C-17s flew 3,168 missions. That meant over 10,000 sorties and just under 40,000 flying hours, transporting more than 30,000 passengers and about 57,000 tons of cargo. 'We try to load the C-17s as efficiently as possible,' Canlas says, 'but we don't always fill up the airplane. If we carry an army tank there might be extra space to put cargo in, but it can be maxed out just on gross weight. Or we may be maxed out on space, but could actually carry more in weight. We are always trying to increase efficiency. Two years ago our aerial port won an award for adjusting load plans to maximize fuel efficiency. They meticulously review each load plan and found the ideal placement of loads with respect to the center of gravity. That improves fuel burn at cruise, which in turns saves money. Every little bit counts!'

It's refreshing to hear just how much emphasis is placed on saving fuel and costs. Just because this is a massive operation doesn't mean there's a bottomless pit of funding. 'There are more things we do to help reducing fuel consumption,' continues Canlas. 'In the past, whenever we did our pre-flight on the aircraft, the first thing we did was start up our auxiliary power unit [APU]. But, realizing that's another jet engine running, we have started making maximum use of ground power carts. We now use ground power carts during most of our pre-flight activities and only start the APU when we are about to start the engines. On a regular pre-flight that saves approximately 1,000lb of fuel, which may not sound like much, but it's a significant amount of fuel

when aggregated fleet-wide. It is a little less comfortable for the crew, because you need the APU running for air conditioning, but it is worth it.'

Special mission

The broader mission of the respective Airlift Wings differs subtly from base to base. Today, the two main C-17 wings (also known as 'Super Wings') are stationed at both Charleston and McChord in Washington State. These 'own' the preponderance of C-17 assets and handle some of the more challenging C-17 missions. 'What's unique about both wings is that we have air-drop capability,' Canlas explains. 'The smaller units [such as] Dover, Travis and McGuire only perform air-land missions, meaning they just take-off and land [to unload their cargo]. They are basically strategic airlifters. They can do some tactical airlift, but for the most part they don't do any formation flying or air-drop, [whereas] about half of our crew force here — and that number is increasing — are qualified in doing air-drops. In order [to undertake] an air-drop you have to fly in formation. So, all our air-drop crews are formation-qualified — trained for flying with open doors — throwing heavy equipment, container delivery bundles [CDS] or personnel, out of the back.

'On May 21 we completed a large-force exercise [LFE] where we launched 15 C-17s. We went up to Fort Bragg, North Carolina, home of the 82nd Airborne Division. We loaded up and dropped a mixture of equipment and CDS bundles — about 230,000lb of equipment — and 1,431 jumpers in a span of just 23 minutes. During these exercises, we make things as realistic as possible. We realize that when we fly into contested airspace we are not going to fly it alone. We need to have some type of support package, someone who clears the airspace. So, we had F-16s participating out of Shaw AFB. They came in and cleared the airspace before we flew in. We had the E-8 Joint-STARS out of Warner-Robins AFB that was doing the command and control [element] of the whole situation, like tracking ground movements and simulated threats that were on the ground. There are a lot of players to be integrated in order to make such a mission a success. We must all speak the same language, not only in air force operations terms but jointly and in a coalition as well.'

Typically, the 437th AW organizes one of these formation generation exercises per year. Canlas says: 'Every year we test our Maintenance Group [MXG] for their ability to generate the maximum output of airplanes they can. This year, even though we only flew 15, they [generated] a total of 22. Almost everything out here [was] in flying condition.'

For the aircrews it wasn't just about the numbers, but also a complex scenario. 'We held back a portion of the planning,' explains Canlas. 'We gave our planners one week for the tactical level details, like the exact routing, the assemblies of the aircraft, load plans, and plans [for] how to insert the aircraft. They worked seven days [including the weekend] to come

This image: **A C-17A on the flightline at JB Charleston.** Dick Wels

Above: **Col Jimmy Canlas, vice-commander of the 437th AW.** USAF

Above right: **The resident Airlift Wings at Charleston now operate 36 C-17s.** Dick Wels

Right: **Charleston soaks up a huge amount of tasking within the overall C-17 fleet.** USAF

A multi-ship 437th Airlift Wing C-17 formation on May 21 during 'Crescent Reach 15' that tested and evaluated Joint Base Charleston's ability to launch a large formation in a simulated crisis abroad. USAF/SSgt Corey Hook

up with a plan. When everyone sees 15 aircraft coming in over the Ravenel Bridge of Charleston, they don't realize how much pain and red eyeballs it costs trying to make a reality out of a PowerPoint presentation.'

The Reserve wing

At Charleston the active-duty wing dovetails operations with Air Force Reserve Command's 315th Airlift Wing. 'Reserve units were built up in the 1960s to augment the active-duty,' explains Col Caroline Evernham, 315th Operations Group commander. 'The 315th was put in at Charleston during the 1970s as an associate to the 437th. We are a full wing by ourselves with our own support, but we fly the C-17s that are owned by the active-duty USAF and we maintain the [aircraft] in conjunction with them. We have the same mission, training, requirements, and we take our check rides the same way. It's just that most of our people have another civilian job. Normally, reservists come in one weekend a month and a separate period of 14 days a year for training. At the 315th, the reservists put in much more — about 160-180 days per year; particularly the pilots and the loadmasters, because obviously they have a lot of qualifications to work through. They have to train in the simulator and have to get a certain number of flights.'

The 315th has about 45 crews in total. Col Evernham says: 'A basic crew consists of two pilots and a loadmaster, but normally you will see more than three crew members. On a long mission we call it augmented; when the duty day exceeds the basic day, they will put on an extra pilot and an extra loadmaster. When it is an eight-hour flight, typically we will try to split it up into four hours each for the pilots and in the back, the loadmaster section, we do it the same way. During long flights everyone gets the same amount of rest — our limiting factor is our crew duty day. Normally a crew duty day is 16 hours from when you come in. So, after 16 hours you have to be on the ground. When it is an augmented crew, this can be extended to 24 hours. Our augmented crews are usually five crew members. More than one loadmaster is also needed when you have large loads or a personnel drop. For training purposes, sometimes we add extra crew members. In that way we can take care of our currency requirements and get our minimum flights or minimum currency taken care of. On an average day, we have two crews out in the system.

'We have a very good relationship with the active-duty wing. When they need

extra reserve support we are often able to fill what they ask for. If they need an evaluator or instructor on a mission, usually we can help them out with that too.'

Buying missions

In AFRC all units (like civil engineering units, security forces, logistic readiness units, and fighter squadrons) have the ability, whenever they need airlift somewhere, cover an airlift requirement. Lt Col John Russi, chief of current operations at the 315th AW explains how such requests are divided throughout the system. 'AFRC will tabulate them and we do a quarterly conference. Every quarter my airlift planner goes to this conference and the co-ordinator from AFRC goes line-by-line through all the usual 400-700 requirements. Who's the unit, where are they going, when are they going and when are they coming back? We figure out what we can support based on 'tail availability'. Our 'tail availability' is basically our crew availability. [Then] the AFRC co-ordinator will start figuring out whatever wasn't bought and strong-arms units to help out, or maybe [they will fund] units for commercial travel. If there are 13 people to be moved you can stick them on a Delta jet and have them take care of it. If you have to move an M-1 tank for example, you can't call Delta!'

AMC tasking comes from Transportation Command through the Tanker Airlift Control Center (TACC) at Scott AFB. These taskings are divided between all the active-duty wings. 'When the TACC tasks the 437th AW with missions they put these in a local system here,' Russi explains. 'Our reserve squadrons look ahead 28 days in advance. If they see a mission they want then we can co-ordinate and tell them we have got a crew that can fly it. We fly about 220 of those missions a year, so 15 to 20 per month. Everything else we do is basically local training — that's about 600 missions a year.'

Aeromedical evacuation

The 315th AW has an Aeromedical Evacuation Squadron under its auspices, too. Col Cheryl Gates is the unit's operations officer. 'There has always been a need to get the wounded out of hazardous areas and back to care. The Reserve and Guard [forces] cover around 90 per cent of the aeromedical evacuation [mission]. Basically, we conduct our missions using 'AE crews', which consist of two flight nurse officers and three AE techs, who are enlisted, plus we can over-man our crews if we have larger patient loads. A lot of the techs are paramedics or even nurses in their civilian jobs. Contrary to what a lot of people think, there are no doctors in an 'AE crew'. The crews have to be highly-skilled because once they are up in the air, they are doing the total care.'

There are 15 'AE crews' at the 315th AES but the unit also has a very large ground support contingent. Gates adds: 'When we deploy, the support people take care of all of our launch and recovery of missions, all the administrative paperwork and co-ordination of transportation for 'AE crews' and patients.

'The 'AE crews' have now become universally qualified. In the past the AE squadrons were dedicated to one aircraft type, [such as] the C-9 Nightingale or the C-141 and these types were specifically air evac aircraft. With missions and aircraft changing — and the need to multi-task — as long as we can set up any equipment that is needed to take care of our patients, we can fly on any aircraft.'

The 315th AES deploys a lot, typically around 125 days a year. 'Right now 30 of my people are deployed,' says Gates. 'We have people deployed at two different locations. Some of them are at Ramstein AB, Germany, but we also have a mission within the US.

'When aircraft come in from Germany or from the Pacific they deliver patients to hubs at Travis and Andrews AFB. We have to have our crews there to distribute the patients throughout the US. When someone is injured in Afghanistan, he or she will normally go to the hospital at Landstuhl near Ramstein, and from there to Andrews AFB near Washington DC or Kelly AFB in Texas, depending on the injury. When coming in from the Pacific, we usually bring them into Hawaii to Tripler Army Hospital and then from Hawaii to Travis AFB, the hub on the west coast.'

Left: **Troops embark for a mission led by AFRC's 315th AW.** USAF

Above left to right: **Loading pallets onto a C-17 at Charleston.** USAF

A 315th Aeromedical Evacuation Squadron team installs a medevac kit inside a C-17. Hans Drost

Below: **Preparing for a night mission at JB Charleston.** USAF

In the first six months of 2015 the overall AE system aided about 35,000 patients with various types of injury or illness. Gates says: 'In the past, it took five days to bring someone from the point of injury to definitive care, like a regular hospital. We can almost guarantee now [transport] from point of injury to a Stateside facility in 72 hours. We can move them quicker these days because we can use any aircraft.' This avoids having to wait for a specific aeromed aircraft type.

Future force

Looking to the future, changes are on the cards. The constant pressure of funding means that the 437th AW has lost one of its four squadrons. On June 25 this year the 17th Airlift Squadron closed its doors. Col Canlas comments: 'That's a response to a couple of things. We have an aircraft reduction going on. We used to have 52 C-17s on the ramp. We already gave three to the Air National Guard and in July 2015 we gave them a fourth airplane. So, we are down to 48. In addition to that we are also taking an additional eight airplanes that we possess, and put them in Back-up Aircraft Inventory (BAI) next to four others that are already in BAI. [This means] we then actually use 36 aircraft. Based on that number, our tasking goes down. The aircraft will still be on the ramp, we still have to maintain them and they rotate too, but when it comes down to a tasking level, we can only be tasked at a number of 36 [aircraft]. Because of this reduction, crews have to come down, and we just also changed our crew ratio from 3.0 to 2.5. The same thing will also happen in 2016 at McChord.'

'During these exercises, we make things as realistic as possible. We realize that when we fly into contested airspace we are not going to fly it alone. We need to have some type of support package, someone who clears the airspace'

COL JIMMY CANLAS, VICE-COMMANDER, 437TH AW

As the first USAF base to receive the C-17, the remaining Charleston squadrons are proud of their heritage. Col Canlas says: 'Our vision statement says 'airlift wing of choice'. For us that's more of an inspiration, not a proclamation. Internally we want people to believe in that mission in a way that people who work here at Charleston, sense that they are part of something special. But also externally, to our partners out there, we prove our abilities. If there is a tough mission that needs to be done, we hope Charleston is their wing of choice. We are 100 per cent confident we'll get the job done.'