



PIT STOP

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Maintaining operational combat readiness can be expensive. It's why Rafale is designed to be fully, quickly serviceable by a reduced ground crew. Compare that to the maintenance requirements of other late-generation fighters. And then carefully calculate the impact Rafale's better design can have on your total life-cycle costs and dispatch reliability. Rafale. A generation ahead. *Rafale*. The **OMNIROLE** fighter ■

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RAFALE 
INTERNATIONAL

FOXTHREE

DASSAULT AVIATION - SNECMA - THALES **N°12**



Editorial

In the 12th issue of Fox Free,

The Rafale Team is proud to announce

that, Rafale omnirole fighters have

participated in two major exercises in

the USA. French Navy and French Air

Forces Rafales successfully took part

in Joint Task Force EXercise and in Red

Flag, attracting a lot of favourable

comments from users, foreign partici-

pants and outsiders.

The “FOX THREE” Team

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Fully interoperable

OMNIROLE SQUADRON

Now equipped with its full complement of 15 Standard F2 Rafale omnirole fighters, Flottille 12F can carry out an extremely large range of combat missions, from land or from the deck of an aircraft-carrier: air-defence, sweep, escort, close-air-support, battlefield air interdiction, anti-ship attacks with precision weapons... On top of their internal 30M791 30 mm cannon, Standard F2 Rafales can be armed with radar and infrared-guided Mica EM/IR air-to-air missiles, Scalp cruise missiles, GBU-12 laser-guided bombs and AASM (Air-to-Surface Modular Armament) low-cost, all-weather, fire-and-forget weapons. In 2007, five French Navy Standard F2 Rafales were engaged in combat operations over Afghanistan with GBU-12s. They successfully supported troops in contact and fired their bombs with deadly accuracy.

Towards Standard F3

From late 2008, the unit will start using operationally improved Standard F3 Rafales which will offer expanded capabilities thanks to the introduction of the ASMP-A nuclear missile, of the Pod Reco NG stand-off recon-

naissance pod, of the Damocles laser-designation pod and of the acclaimed AM39 Exocet missile. With Standard F3 Rafales, Flottille 12F will be capable of carrying out the full spectrum of aero-maritime fighter missions, from anti-ship attacks in coastal and blue

waters to power projection over land, and from air superiority/air-defence to nuclear deterrence. Under current plans, a second naval squadron, Flottille 11F, will start converting from the Super Etendard to the Standard F3 Rafale in 2012.



FULL SCALE DEPLOYMENT

As part of its continuation training programme, the French Navy sent six Rafale omnirole fighters and two E-2C early warning aircraft to the USA to participate in Joint Task Force EXercise (JTFEX) 2008-4, a major training effort involving more than 30 warships and 15,000 military personnel from four countries.

Keeping skills sharp

With the *Charles de Gaulle* in refit for a nuclear reactor refuelling and complex overhaul, it was decided by the French Navy to deploy the Rafales and the Hawkeyes to the USA to maintain skills in carrier operations. Traditionally, the French and US Navies have always closely cooperated, and French and US decision makers were keen to bolster this cooperation even further. Cross deck operations had been carried out before on numerous occasions, but not on a large scale, and both navies

were willing to test their interoperability and validate common operating procedures. "The purpose of the deployment was to demonstrate our ability to integrate with US Forces," explained Captain Patrick Zimmermann, the French Carrier Air Group Commander. "We had not been idle while the *Charles de Gaulle* was in dry-dock, however, and we have used that timeframe to regenerate our carrier air group and to train new pilots. In mid-2007, and again in May 2008, Rafales and French Hawkeyes trapped onboard USS *Enterprise* and USS *Harry*

Truman, further demonstrating interoperability. In February 2008, we were given the green light by US authorities for the deployment onboard USS Theodore Roosevelt, and we started planning the exercise. The Aéronavale contingent was composed of six Rafales, two Hawkeyes and officers, NCOs and sailors from Flottilles 4F and 12F, the *Charles de Gaulle*'s carrier deck crew and the French Carrier Air Group mission planning cell."



Across the Atlantic

On 26 June 2008, six Flottille 12F Standard F2 Rafales left their homebase in Landivisiau to cross the Atlantic via Lajes, in the Azores archipelago. The Rafales were accompanied by two French Air Force C-135FR tankers and all ground personnel, spares and ground support equipment were carried by an Armée de l'Air transport aircraft and a hired civilian airliner. During the first two weeks of the deployment, the Rafales were

accommodated at Naval Air Station (NAS) Oceana, in Virginia. Numerous training missions were flown from there with, or against, locally-based US jets. For the whole duration of the exercise, at Oceana and onboard USS *Roosevelt*, VFA-31 'Tomcatters', a F/A-18E Super Hornet squadron, was the hosting unit for Flottille 12F. For the French fighter pilots, training with their US counterparts was an excellent opportunity to test new tactics and to verify interoperability.







FULLY INTEROPERABLE

During their deployment in the USA, French Navy Rafales seamlessly integrated with US and foreign forces involved in Joint Task Force EXercise (JTFEX) 2008-4. They participated in demanding combat training missions, simulating attacks of ground targets with precision weapons, and performing mock air-to-air engagements at long and close ranges.



Onboard USS Roosevelt

For the French contingent, the exercise culminated with the deployment of five Rafales for five days onboard USS *Theodore Roosevelt* (CVN-71). Prior to embarking on the carrier, Flottille 12F pilots performed four simulated field deck landings each (two in daytime and two at night) at NAS Oceana or at nearby Naval Auxiliary Landing Field Fentress. Experienced US Landing Signal Officers (LSOs) were assessing the performance and safety levels of the French Navy aviators before allowing them to trap onboard the carrier. On 19 July 2008, the first Rafale carrier landing was recorded onboard USS *Roosevelt*. The first two days onboard the US vessel were dedicated to Carrier Qualifications and every pilot had to log ten 'traps', six in daytime and four at night, in order to become fully qualified again. On the very first day, four pilots gained their day and night carrier qualifications, with the other four the following day, an achievement made possible by both the superb handling qualities of the Rafale in the circuit, and the size of the US carrier which allowed simultaneous launch and recovery of fighters.

Once fully qualified, French pilots switched to complex, multinational combat training scenarios. They operated as part of the *Roosevelt*'s Carrier Air Wing (CVW-8), and flew combined missions with US Navy F/A-18C Hornets, F/A-18E/F Super Hornets and EA-6B Prowlers. For mis-

sion planning, briefings and debriefings, they shared a ready-room with VFA-31 aircrews.

During the tactical training phase of JTFEX 2008-4, French and US naval aviators took part in operations spanning the US east coast, from Virginia to Florida. Most sorties were flown in the W-12/W-122 training areas off the east coast, and over the BT-11 and Navy Dare County training ranges, in North Carolina. Other strike missions were flown as far as Florida, with tanker support from US Forces. Both low-level and medium/high-level profiles were flown by Flottille 12F aircrews. "We took advantage of our deployment to the USA to train section and division leads, explained Commander 'Tom' Valette, Flottille 12F Commanding Officer. The whole spectrum of combat missions was simulated, from self-escort strike to close air support, and from basic fighter manoeuvring to air-defence. For strike or close air support scenarios, we simulated attacks with loads of six AASM stand-off, fire-and-forget modular air-to-surface armaments, or six GBU-12 laser-guided bombs, plus a full-up air-to-air load of Mica radar and infrared-guided missiles. On most missions, we had US Navy adversary units in Oceana or US Air Force fighters trying to oppose our ingress. That was very realistic training in a different environment for us."



Link 16

For the French Navy, one of the main goals of JTFEX was to demonstrate that its Rafales were fully interoperable with US fighters. Aéronavale Rafales have already participated in combat operations over Afghanistan and they are more than likely to deploy to the Indian Ocean again in the next few months, so every opportunity to train with US assets

proves invaluable. For each JTFEX training mission, the Rafales 'plugged' into the US Navy Link 16 datalink network prior to taking off. Once airborne, they shared tactical data with US fighters and with French, US, and British AWACs, Hawkeyes and Sea Kings. As a result, the situational awareness of all Rafale pilots was massively ameliorated, and overall combat efficiency was significantly increased:

Flottille 12F aircrews rose above the 'fog of war' and all hostiles and friendlies were clearly identified, allowing French pilots to either dodge or engage the threat, depending on the tactical situation. Thanks to the Link 16 datalink, tactical control was both easier and quicker, and the Rafales were able to prosecute their time-critical targets more effectively and more rapidly.

All-round compatibility

Interoperability extended to secure communications network as the Rafale is equipped with NATO-standard radios. In-flight refuellings did not pose any problem either, and French Rafales took fuel from US Air Force KC-135 and KC-10 tankers, Omega Boeing 707s and US Navy Hornets and Super Hornet fighters equipped with

buddy-buddy refuelling pods. The *Charles de Gaulle* is fitted with catapults and arresting gears which are very similar to those of US carriers. The design of the catapult shuttle used to attach the French fighter's launch-bar is slightly different from that in service with US aircraft, however, which meant that US shuttles had to give way to French ones whenever a Rafale was due to be catapulted, the

operation taking less than one minute to complete. All Rafales were usually launched by the same catapult in order not to disrupt the launch-cycle of USN aircraft. 'Hot refuellings' with the Snecma M88-2 turbofans running were carried out during the deployment too, further demonstrating the Rafale's interoperability with US support equipment.

Total success

In five days, Flottille 12F Rafales logged 153 carrier landings, including 57 at night. The last Rafale was catapulted from the *Roosevelt* on 23 July, and the squadron continued the exercise from NAS Oceana. In early August, the six Rafales flew across the Atlantic back to Landivisiau, again with tanker support from the French

Air Force. For Flottille 12F, JTFEX 2008-4 was an outstanding success and the unit demonstrated, on a large scale, that it could routinely and safely operate from a US carrier, far from its traditional support infrastructure. French and US pilots are looking forward to other, intensive cross deck exercises in the near future. In all, the six aircraft logged 480 flying hours in just over a

month with very good availability and reliability rates. This exercise has proved, once again, that the Rafale is a fully mature fighter which has no difficulty blending into a US-led coalition type force and, with the *Charles de Gaulle* due to be fully operational again from early 2009, the Flottille will find itself back into action soon.

