

# FRENCH GUNNERY RANGE

Armée de l'Air units including EC 1/2

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All photos author

**C**oca 21, you are cleared hot!" The range control officer talks to the Mirage 2000D leader, telling him he has the green light to drop his inert bomb on a range target. The view over the range from the tower is excellent and as soon as the run is complete, the pilot has his bombing result by radio (later, an email is sent to every customer unit visiting that day, summing up the result of every 'attack').

A few seconds after clearance is granted, the Mirage comes out of the sun, drops its weapon and banks sharply to port to avoid a simulated threat. The pilot's wingman is already in contact with the tower and the next run is imminent. On this busy Tuesday last October, the airspace over the Suippes range reverberated with jet noise from 0900 until 1600hrs as various fighter flights showed off their skills.

Located within France's Camp de Champagne training range, Suippes includes a dedicated area for air-to-ground ordnance delivery. A small efficient unit reporting directly to the Centre d'Expériences Aériennes Militaires (CEAM, Air Warfare Centre) at Mont-de-Marsan, Champ de Tir Air Sol (CTAS, Air-to-Ground Firing Range) 9/332 is responsible for the air-to-ground activity over this corner of the vast Armée de Terre (French Army) range.

At 1,600 acres (650ha), the Armée de l'Air range is but a small part of the 33,600 acres (13,600ha) of the Suippes military complex, most of which is dedicated to Armée de Terre long-range artillery fires. The air force area was claimed in 1986 and used by every squadron in northeast



# SHOOTING AT SUIPPES

The Armée de l'Air range at Suippes is used by Mirage, Rafale, F-16 and Tornado fast jet customers, as well as hosting Aviation Légère de l'Armée de Terre helicopter live-firing exercises. **Sebastien Buyck** saw the range in action.



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France. Range slots were filled weeks in advance by Armée de l'Air units from Cambrai, Colmar, Luxeuil, Nancy, Reims, Saint-Dizier, Strasbourg and Toul.

Although there are fewer operational air force units nowadays, the range remains busy as Armée de Terre, Marine Nationale (French Navy) and even Gendarmerie and Police special assault teams use it. During AFM's visit, a large Aviation Légère de l'Armée de Terre (ALAT, French Army Air Corps) detachment was on site, comprising Pumas and Gazelles from both 1er Regiment d'Hélicoptères de Combat (RHC, Combat Helicopter Regiment) and 3e RHC.

The helicopter crews were training to track targets on the ground, 'shooting' at each to end their mission. The Gazelles mounted snipers using Heckler & Koch G36 and HK417 rifles (depending on their unit's mission and equipment), the Pumas' pairs of MAG 58 machine guns firing from their open cabin doors. A Puma was also engaged in a commando fast-roping exercise close to the tower. The ALAT detachment was notably fully autonomous, bringing everything it needed to Suippes, while refuelling from transportable soft fuel cells.

The range features dedicated helicopter targets, most of them old cars and barrack buildings that can be shot at without restriction. Under the commanding officer's authority, units may also bring their own targets if required. Other helicopters, including the Tigre, Fennec and Puma 'Pirate' (which has a side-mounted 20mm gun) also use the range, by day and night.

## PC control

Suippes is equipped with the Autorisation de Tir Assisté par Radar et Informatique (ATARI, Computer Assisted Radar Fire Authorisation) system, which generates a view of surrounding air activity on the range officer's PC. The software enables him or her to track all aircraft equipped with IFF (identification friend or foe) in the vicinity of the Suippes R4 Restricted Area, which includes the range and its approach, enabling efficient management from the ground without interfering with the wide-area air traffic control over eastern France.

With SATAM (Système d'Acquisition et de Trajectographie des Avions et des Munitions, Aircraft and Munitions Spotting and Tracking System) radar on site, approaching aircraft can even be located in instrument meteorological



An ALAT Puma pilot brings the helicopter close to dedicated targets for a MAG 58 firing session.



Above: An aerial view of Suippes. Trees are felled in the nearby woods to provide channels that assist pilots attacking the range.

conditions. Special procedures enable individual aircraft to 'attack' in very poor weather. Range equipment and software improvements are frequent, and a future option might be the installation of cameras to record hits. The current procedure is for a specialist to stand alongside the range officer in the tower, spotting the smoke from bomb hits. The acoustic Secapem system records the strikes of each round.

Only inert bombs can be dropped on the site, primarily for safety reasons and concerns over contamination. Live fires are made over the sea off Biscarrosse for long-range weapons, including the Armement Air-Sol Modulaire (AASM, Modular Air-to-Ground Weapon), and Captieux (in the southwest) for bombs, rockets and other systems. Nonetheless, Suippes is governed by strict regulations.

The surrounding area is used by long-range artillery, which fires shells along a very high trajectory and the range is closed or restricted at specific times to avoid the potential for collisions between aircraft and shells. Every unit using the range must contact 'Attila' tower days in advance to book slots – 'Attila' is the Suippes' tower callsign, chosen to commemorate a historic local camp held by the Hun king in 451. Unscheduled runs can be made, but crews must contact the tower in flight to ensure the range is open.

Pilots contact 'Attila' at least three minutes before entering the R4 Restricted Area. The range control officer then takes charge and is solely responsible for authorising a fighter's run. Strafing is performed on a heading of 013, matching the direction in which the targets are installed to score rounds passing through.

In the tower, the range control officer uses binoculars and ATARI to check an aircraft's approach. The fighter must be at a specific altitude, depending on the bombing technique employed, coming from the correct direction and in a wings-level attitude. It is up to the pilot to engage the target and then break left on egress. Even the break is assessed – some pilots become so focused on the target that they descend too low or break too gently, a mistake that might draw enemy fire in combat.

Most pilots make a few 'dry' passes before 'attacking'; weapons are employed on only 60% of runs. This enables them to become familiar with the range environs and makes



Due to its proximity to Büchel in Germany, Suippes is often used by Luftwaffe Tornados. Tornado IDS 45+94 from Taktische Luftwaffengeschwader 33 is flying bombing and gun runs over the range.

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their intentions clear to the officer in charge. When there is no artillery activity and pilots do not intend to employ weapons, the range can be 'attacked' from any direction.

Some pilots use Suippes for its convenient situation and target selection, which includes retired surface-to-air missile (SAM) systems close to some targets. The SAMs are no longer operational, but can be useful to improve the realism of a bombing scenario.

An 'L'-shaped target to the north comprises withdrawn AMX-30 tanks and wrecked trucks, all from Armée de Terre surplus. The 'L's' 'vertical' is orientated at 013 so that pilots shoot targets from front to back during their strafing run. Its 'horizontal' is also made from old materiel and primarily intended for Rafale crews.

Using the jet's high-velocity 30mm gun, the Rafale pilot can begin firing from 7,874ft (2,400m – hundreds of feet earlier than the Mirage 2000). Pilots plot the tank at the base of the 'L', firing their initial rounds before guiding the weapon vector to the right to engage a second target, causing considerable damage in a single run.

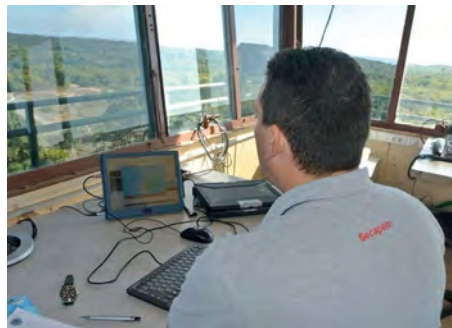
### Weapons delivery

French fighters fire around 8,500 shells at Suippes each year, foreign aircraft 500 more, all of them dummy rounds of full weight but without warheads. In 2015, the Armée de l'Air and Marine Nationale dropped 1,403 F4 and 157 F3 training bombs, 95 laser-guided training rounds (LGTRs), five inert GBU-12s and eight resin-filled Mk82 freefall bombs. F4 and F3 are light plastic bombs mimicking the ballistic qualities of full-size unguided bombs, F4 weighing 35lb (16kg) and simulating a Mk82, while F3 weighs 18lb (8kg) and mimics a Mk82 Snakeye. The LGTR is a cheap alternative to the GBU-12 and



**The SECAPEM acoustic system is a surprisingly small piece of equipment. Note the important metal plate in front of the box to prevent bullet damage.**

**A SECAPEM technician records all the shooting results on a laptop.**



equipped with a smoke and flash cartridge to ease the recording of its impact point.

The range's foreign air force customers tend to prefer the 22lb (10kg) DM38 and 7.7lb (3.5kg) DM18 practice bombs, often in combination with the SUU-20 dispenser. The Suippes range is often

visited by 2<sup>o</sup> Wing, Belgian Air Component F-16s from Florennes and Taktisches Luftwaffengeschwader (TaktLwG, Tactical Air Wing) 33 Luftwaffe Tornados from Büchel, as well as other types. In 2015, Belgian F-16s flew 760 passes over Suippes, German Tornados 960 and US Air Force A-10s 210.

Another regular range user, the Marine Nationale Atlantique cannot drop the GBU-12 over the Brittany Plouharnel range closer to its home base because it requires an altitude of 18,000ft (5,486m) for safe release, which is impossible because of civilian traffic. There are no such restrictions over Suippes, so the Atlantiques frequently cross the country to drop GBU-12s, practising a relatively new mission for the submarine hunter and maritime patrol aircraft, which is proving an effective bomber in combat (see *Overworked Atlantique*, September, p57-59).

With improvements and target enhancements planned for the future, the Suippes range will continue in its key role, providing weapons release and gun-firing experience for French and foreign aircrew. **AFM**

## Secapem scoring

French company Secapem, which was founded in 1957, specialises in targets and scoring systems. It has provided the Armée de l'Air with targets for many years and three of most important French gunnery sites – Suippes in the northeast, Captieux in the southwest and Diane in Corsica – are equipped with Secapem systems. In its simplest expression, the system comprises an electronic sensor capable of detecting the shockwave created by a high-speed shell.

*Direct hit! An LGTR released by a Mirage 2000D slams into an old tank on the Suippes range.*

A virtual 'basket' around a target detects and records each round entering it. For air-to-air work, TAXAN agile gunnery targets are trailed from pods carried by dedicated fighters. On the ground, Acoustic Fixed Ground Scoring (AFGS) systems are installed, including large red cross targets made from carbon fibre.

The Secapem system is capable of sending gathered results directly to a technician, via a radio transmitter. Data are recorded on a simple laptop and can

be sent to range users via the internet. The software can display the impact of every round against a visualisation of the target, so pilots can see where their rounds hit the actual range target. Recently, Secapem developed a lightweight recording system that can be installed anywhere there is sufficient space (and no people in the vicinity), even outside a firing range, and some air forces are interested in acquiring this simple, efficient scoring system.

