

The squadrons of the 20th Fighter Wing, Shaw AFB, S. C., are taking on a range of demanding new tasks.



Multirole



Photographs by Paul Kennedy and Guy Aceto, Art Director

A Block 50 F-16C from the 78th Fighter Squadron, Shaw AFB, S. C., shows off one of its new weapons. The AGM-88 High-Speed Antiradiation Missile and the companion HARM Targeting System (HTS)—visible just under the aircraft's intake—add more lethality to this versatile aircraft's bag of tricks.

The 20th Fighter Wing's three F-16 squadrons consider the Suppression of Enemy Air Defenses (SEAD) mission their specialty. In addition, the wing's 77th, 78th, and 79th Fighter Squadrons also handle traditional air-to-air and air-to-ground missions. Lt. Col. Dave Herlong, assistant deputy operations group commander, said, "The F-16, phenomenal machine that it is, can fight its way . . . into the arena and fight its way back out and can do a lot of its own protection."

At right, three Block 50 F-16s from the 78th FS climb out of the weather, returning from a training mission.



The preferred weapon in hunting down anti-aircraft artillery and surface-to-air missile (SAM) radars, the AGM-88 HARM was developed as a follow-on system to the AGM-45 Shrike and the AGM-78 Standard anti-radiation missiles. During the Vietnam War, Soviet-built radars were capable of detecting the approach of those first-generation anti-radiation weapons and often shut down before they could be hit.

Above and at right, a load crew mounts a pair of HARMs onto an F-16. A standard combat load would consist of pairs of HARMs and AIM-9 Sidewinders, along with two AIM-120 Advanced Medium-Range Air-to-Air Missiles (AMRAAMs) for self-protection. Experienced crews can load a "Viper" in short order, despite the size of the HARM—more than thirteen feet long. The 20th FW deploys often—especially to southwest Asia in support of Operation Southern Watch—so a walk down the flight line will usually find crew members honing their skills. Like these 78th FS "Bushmasters," the crews are determined to be ready when it's time to go.





The Bushmasters named themselves after a poisonous snake of Central America, where the 78th FS was based in the 1930s. The unit was organized in February 1918 as the 78th Aero Squadron at Waco, Tex., training aircrews in JN-4, JN-6, and S-4 aircraft. Today, as part of the 20th FW, it performs demanding SEAD operations. The mission is divided into two distinct approaches, albeit with the same goal—to protect US flyers from the enemy's air defense network, including radar integrated AAA, SAMs, or any other ground-based threat. SEAD Alpha uses the HARM to suppress or destroy an enemy radar site. SEAD Charlie features an attack with conventional ordnance, such as general-purpose bombs, cluster munitions, or the AGM-65 Maverick.

In the mid-1980s, F-16 Fighting Falcons were paired with F-4G "Wild Weasels" in hunter-killer teams, so it has already earned a reputation for accurately putting iron on target. However, the Block 50 modifications and the HTS make the aircraft even more capable.



Photo by Paul Kennedy





Located seven miles south of Shaw AFB, the Poinsett Range Complex provides crews with a veritable electronic jungle—the Electronic Combat Range—to test skills and new technologies needed for the SEAD mission. It also has an Air-to-Ground Gunnery Range that allows crews to practice strafing and bomb delivery. In a typical month, more than 400 aircraft use the complex. A diverse group of users includes F-16s and A/OA-10s from Pope AFB, N. C., the 169th Fighter Wing (ANG) from McEntire ANGB, S. C., and even Marine Corps F/A-18s.

The Poinsett Electronic Combat Range uses several radar systems to simulate real-world threats. Visiting aircrews can evaluate their own sensors and electronic countermeasures as operators provide realistic threat scenarios. Above (front to back), SrA. Steven Smith and A1C Jeremy Kittle, both from the 20th Operations Support Squadron, work at an AN/MST-T1(V) mini-multiple threat emitter system. At right, SrA. Eric Rippetoe and SSgt. Kenneth Glasgow work in the MUTES control cab.



With AGM-88 HARMs, AIM-9M Sidewinders, and AIM-120 AMRAAMs on its wings, this F-16 is ready for just about anything. AMRAAM adds a new dimension to the agile fighter, giving it a beyond-visual-range capability. "Instead of fighting from ten miles in—where the Viper is very good—now we have to start thinking about fighting [farther out]," said Capt. Tom Gould, an F-16 pilot with the 78th FS.



The 55th Fighter Squadron is the 20th FW's only A-10 unit. The "Warthog" is no stranger to upgrades, either: Special lighting to accommodate night vision goggles (NVGs) was added to the A-10, transforming it from a relatively low-technology fighter into a high-tech one. A few years ago, the Warthogs received the Low-Altitude Safety and Targeting Enhancement system, which improved the aircraft's accuracy in gunnery and bombing.

Above, an A-10 pilot checks his aircraft, preparing it for the unit's deployment to Kuwait in March 1996. Note the travel pods, ready to be loaded with what little luggage he'll take. At right, Maj. Randy Petyak models NVGs. Below is the A-10's main weapon, the deadly 30-mm GAU-8 Gatling gun.

This summer, the 55th FS's A-10 personnel and aircraft are moving to Pope AFB, N. C. There, they will paint the teeth of the Flying Tigers on their A-10s and form the 74th FS. Remaining at Shaw, the 55th FS was scheduled to receive Block 50 F-16Cs, giving the 20th FW its fourth F-16 squadron.



Photos by Paul Kennedy





At left, 1st Lt. Lance Yarborough, from the 78th FS, buckles up before sliding into the cockpit (below). He already completed his walkaround, so as soon as the lieutenant is up the ladder, the ground crew will begin its well-rehearsed moves to send his F-16 on its sortie.

The 20th FW fielded the HTS pod in order to develop tactics, even as the Air Force was conducting tests on it. "To a large extent," Captain Gould said, "tactics were matured operationally and in the test field at the same time." SEAD conferences back then brought together F-16 pilots and some F-4 pilots to learn about the new system. The information passed on by the Weasel pilots was "invaluable," the Captain added. "We had plenty of people in the F-4 community help us out."

Below, Lieutenant Yarborough moves his aircraft forward a bit, preparing to taxi. A wisp of damp air is being sucked into the intake as the F-16's engine powers up.



F-16 pilots have certain core skills in common—air-to-air combat and dropping bombs or cluster munitions are basics for all. But the F-16s they end up flying may be very different aircraft, though the airframes look alike. The Block 40 fighter, with Low-Altitude Navigation and Targeting Infrared for Night pods, specializes in night attack with precision guided weapons, a substantially different mission from the Block 50 SEAD role or even the hunter-killer role of the Block 30 F-16 teamed with the F-4G. In explaining the difference between Blocks 30 and 50, Captain Gould said, "A Block 30 is a gunman with his eyes closed, and the guy next to him says, 'Turn left and shoot.' [Whereas] in a Block 50, I've got my eyes open, and I know exactly where to shoot."



Above, a pair of Vipers from the 78th FS stay in tight formation on the way to the Poinsett Range Complex. At left, a pilot receives last-minute information from the ground crew.

Among other developments, upgrades in HTS and technical improvements in the RC-135 Rivet Joint electronic warfare aircraft are expected to make it possible for F-16s to increase their SAM-killing abilities even more. And while the basic F-16C airframe has given rise to variations in the fighter, leading, in turn, to units carving out different specialties, the 20th FW and its electronic combat range and new F-16 squadron could very well evolve into SEAD Central. As pilot 1st Lt. Ross Anderson said, "This will be the super-SEAD wing of the Air Force." ■

