

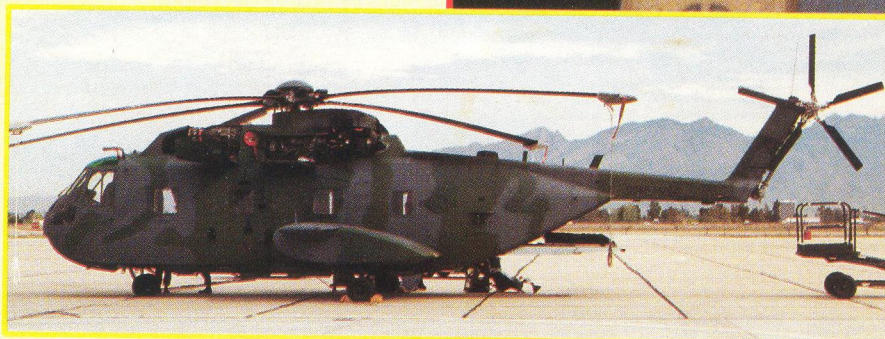
The same low altitude/night flying skills cultivated in active duty **Pave Low** and **Pave Hawk** helicopter crews, are required of US Air Force reservists in the **71st Special Operations Squadron** at **Davis-Monthan Air Force Base, Arizona**. Less than half the 71st SOS is made up of full-time Air Reserve Technicians, but the unit routinely practices long-range penetration missions to insert and extract special operations forces deep in hostile territory. The squadron went to war in **Operation Desert Storm** in early 1991, expanded its training exercises in the year since, and will trade its honoured **MH-3E Pave Pigs** for the modern **MH-60G Pave Hawk** in late 1992 and early 1993.

Despite current budget cuts, the Total Force concept long pursued by the US military will continue to fuse active duty, National Guard, and Reserve units in time of war. The extraordinary aircrew skills and intense maintenance effort essential to special operations aviation impose unique demands on 'citizen airmen' holding civilian jobs. According to 71st commander Lt Col Rick Davis, 'Basically, we're not that much different from an active duty unit except we're not gone as much. We don't have the kinds of extended trips.'

Reservists of the 71st SOS nevertheless spent over three months in south-west Asia, and the peacetime distinction fades as the small, busy squadron flies more distant training exercises. Three Sikorsky **MH-3E**s self-deployed to Honduras early this year with eight air-to-air refuellings, and utilisation is expected to climb as the reserve unit gains visibility within the SOF community.

Most of the reservists in the 71st SOS live in the Tucson-Phoenix area, although some commute from as far as Denver, Colorado. Only six of the 21 pilots and three of the 18 flight engineers are Air Reserve Technicians. 'It's like any other Guard or Reserve unit,' explains Lt Col Davis. 'Those people are a cadre that maintain the unit during the week and maintain the continuity of training.' The

commander of the 71st SOS has flown more than 5,000 hours in Air Force H-3s from Vietnam to the Arctic. Pilots come from a range of civilian professions including helicopter company test pilots and airline pilots.



**Top:** Four **MH-3E**s were deployed during **Desert Storm**. The helicopters were re-camouflaged in Saudi Arabia and still wear **FLIR** turrets, **IR jammer** mounts, **satellite communications antennas**, and other equipment installed for the war.

**Above:** Two of the 71st SOS helicopters wear standard **European One** camouflage.

The squadron tries to assimilate younger experienced aircrew specifically to keep the entire unit from getting old at once. New pilots come from active duty in all the US services, some very skilled in helicopters, and some newly transitioned

by Frank Colucci

# SOF IN RESERVE

Skilled reservists bolster the helicopter strength of US Special Operations Forces.

**Main picture:** **MH-3E Pave Pig** of the 71st SOS wears a **FLIR 2000E/F** thermal imager on its air-to-air refuelling probe. The desert-camouflaged helicopter still wears the **Camel** markings and **Arabic** nose numbers applied in Saudi Arabia, and the **Green Feet** symbol of Air Force search-and-rescue applied recently.

**Right:** Four **MH-3E**s and 105 members of the 71st SOS were airlifted by **C-5 Galaxy** to Saudi Arabia in January 1991.



by the US Army. 'We could bring someone in from fighters and send him to Fort Rucker. Maybe they've got 2,500 hours of flying time, but they've never flown rotary-wing. We send them to Fort Rucker and put them in the left seat, and they stay there for two or three years.' Pilots progress from day co-pilot to day tactical aircraft commander, night tactical co-pilot, and finally night tactical aircraft commander. Most crew members fly twice a week, although some fly daily.

Davis-Monthan AFB is surrounded by low-level flying areas and provides easy access to the Goldwater weapons range south of Phoenix. Recent deployments to Nellis Air Force Base, Nevada, enabled MH-3 crews to practice escort techniques with and evasive manoeuvring against A-10 close support aircraft. Exercises with US Army, Navy, and Marine special operations units acquaint more SOF 'customers' with the squadron. The 71st also flies drug interdiction missions, although officers will not discuss specific operations.

'We do everything that we do at night. I would say 80% of our tactical training is at night,' adds Colonel Davis. Aircrew of the 71st routinely fly with ITT AN/AVS-6 ANVIS night vision goggles. The MH-3E cockpits were made NVG compatible with flip-down filters in 1990, eliminating the half-hour's work once required to tape over bright lights. Blue-green cabin lights or green chemlights can be used by customers in the aft cabin without disturbing the cockpit crew. The squadron first received the FLIR Systems Series 2000E/F thermal imager in December 1990 and deployed with its new night eyes to south-west Asia in January 1991.

#### Storm mobilisation

The 71st SOS currently operates six MH-3Es and reports to the 919th Special Operations Group at Duke Field, Florida.



The chain of command runs to the 4th Air Force and Air Force Reserve Headquarters in peacetime, but transfers to the Air Force Special Operations Command and US Special Operations Command when mobilised for war. The 71st SOS and 919th SOG can be mobilised together or separately, and the 71st maintains close ties to AFSOC at all times. The squadron reported to the 1st Special Operations Wing when sent to south-west Asia.

Preparations for Desert Storm began two months before the 71st SOS was called to active duty on 21 December, 1990. Satellite communications sets, FLIR turrets, Trimble Global Positioning System receivers, and Dalmo Victor APR-39A(V)1 radar warning receivers were installed at Davis-Monthan, and crews flew training missions with the new equipment in the US. The squadron sent four MH-3Es and 105 of its 150 personnel to Saudi Arabia aboard C-5 jet transports on 10 January 1991. The unit set up operations at King Fahd airport on 13 January and immediately flew two nights of training. ►

'One of the problems that we encountered over there was the rolling terrain and the inability at night to distinguish sand dunes,' says 71st Tactics Officer Capt Max Maxwell. 'The Army got into a lot of trouble running into sand dunes. We set up water patterns for landing on land... What you do is toss chemlights out the side of the aircraft, and it forms a lane. Landing over there on the sand is basically like flying over water without any references.' Six chemlights thrown from each side of the aircraft on the first pass provide the reference for a safe approach and landing.

Ready to fly operational missions 72 hours after arrival, the 71st was assigned overwater search-and-rescue responsibility in the Persian Gulf and provided transportation for special operations units working off the coast of Kuwait. The water-landing capability of the MH-3 was desirable to help retrieve downed pilots or to extract or 'exfiltrate' special operations teams. On 27 February, a 71st SOS helicopter located the wreckage of a US Air Force AC-130H gunship shot down off the Kuwaiti coast. The squadron was also forward-deployed to Medevac casualties in the ground war. Two MH-3s were routed between Iraqi anti-aircraft sites to pick up five badly wounded Saudi soldiers on 24 February. The SAR missions were covered by MH-60G Pave Hawks with 7.62 mm and 0.5 calibre guns, and the SOF insertions and extractions were covered by MH-53J Pave Lows.

As it turned out, the only pilot to eject in the area covered by the MH-3s was quickly recovered by a US Navy ship, but the pier used as a forward operating location came under an Iraqi FROG barrage. A 71st crew proved an MH-3 could be airborne from a dead start in less than 90 seconds.

The MH-3E is flown by a pilot, co-pilot, flight engineer, and one or more scanners who talk the pilots into tight landing zones, watch for threats, and manage the customers in the cabin. Scanners also man M60D or new M240E machine guns in the forward port cabin window and starboard cabin door. The 71st SOS initially added dedicated FLIR and GPS operators but soon tasked the flight engineer to work the FLIR and the co-pilot to tie the GPS into navigation routines, as experience with the new equipment grew. The FLIR station back in the cabin has a nine inch monitor, a video recorder, and a control pendant that can be carried to the cockpit. A six inch monitor in the centre console shows both pilots where the flight engineer is looking.

'There's no way you can fly off that FLIR head-down,' explains Capt Maxwell. 'FLIR is just another tool. NVGs are still the prime source.' Although it is not integrated into a navigation system such as that aboard the MH-53J or MH-60G, the FLIR on the MH-3E is ordinarily used to check waypoints at night, and spot vehicles and people on the ground.

'Flying over the water all the time, it got quite foggy. There wasn't much horizon. What we'd do on water, a lot of times we'd



*The 71st used HC-130 tanks to deploy to Honduras and routinely practises day and night refuellings.*

set the FLIR straight forward and basically see the horizon in the FLIR. With NVGs we were limited to 2 or 3 miles as to what we could see. With the FLIR, we could see quite a bit further. We worried about ships and about guys on platforms.' The FLIR 2000E/F has 4x magnification on the narrow field-of-view.

Neither FLIR nor NVGs, however, could really penetrate the smoke of the oil fires in Kuwait. Flight engineer Master Sgt Rod Haralson explains, 'Because of the cloud cover and the rain that we had, the area cooled off to basically the same temperature. The thermal was real degraded, (but) it was a lot better than the goggles.'

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## An MH-3 could be airborne from a dead start in less than 90 seconds.

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Capt Maxwell recalls, 'That was the most scared I had been during the whole war. We were coming off an exfil point, basically on minimum fuel in the area where the oil fires were, and started going IFR in the smoke. Literally, we could not see one foot in front of the aircraft. The only thing that I believed saved us was we had our GPS. The GPS was right on the money... We finally settled on a safe altitude above what we knew the terrain was - about 500 ft - and flew on GPS straight over the Mushad airfield and finally saw the runway lights right underneath us.'

The Trimpack aboard the MH-3E is simply Velcroed to the instrument panel coaming, usually in front of the co-pilot.

'Without the GPS, I don't think we'd have been able to perform our mission,' concludes Capt Maxwell.

The MH-3Es were privately dubbed Pave Pigs with their new mission equipment. The aircraft received the mounts for dual Lockheed-Sanders ALQ-144(V)3 infra-red jammers in a phase-locked installation side-by-side atop the cabin. Brackets for Tracor ALE-40 flare and chaff dispensers were added to the aft fuselage, and new 7.62 mm M240E machine guns were ordered from FN Herstal before deployment to the Gulf.

Neither jammers, nor flare dispensers, nor rapid-fire guns were delivered before the end of the fighting. MH-3 crews faced the IR missile threat with scanners pointing flare pistols out the cabin windows and cargo ramp.

The MH-3Es were repainted from European One grey-and-green to desert brown-and-tan in Saudi Arabia. The largely overwater mission made it unnecessary to introduce sand filters for the General Electric T58-GE-100 engines, but high temperatures and heavy loads led the 71st to leave their 200 gallon external fuel tanks on the ground and rely on Hercules tankers to extend their range. Despite their age, the MH-3s have a bigger cabin than the MH-60Gs and remained the aircraft of choice for some missions in the Gulf. 'We had a more capable aircraft cargo-wise and air-frame-wise, and a far less capable aircraft EW-wise,' says Capt Maxwell.

### Trading up

The MH-3Es are 1967 to 1969-vintage helicopters, the survivors of the Super CH-3Cs flown on special operations in Vietnam and given to the 302nd Special Operations Squadron at Luke Air Force Base, Arizona in 1974. The 302nd moved south to Davis-Monthan, partly for the drug interdiction mission, and turned its aircraft and mission over to the 71st SOS in October 1987. The MH-3Es acquired air refuelling probes like those won by HH-3E.

They now have IR jammers, frequency-hopping Have Quick II UHF radios, and the jam-free M240E guns. According to Lt Col Rick Davis, 'Proper designation is the HH-3E, but there's nothing on it that represents what you'd see on the old rescue HH-3. So people call it MH-3 because it's been modified for the SOF mission.' The high-time aircraft in the 71st has accumulated nearly 9,000 hours.

The H-3 has been a reliable performer for the Air Force - MSgt Haralson has flown some 6,800 hours in the aircraft with just one engine failure and a single emergency landing due to a transmission chip light. Maintaining old, unique airframes nevertheless requires special effort. The 71st SOS has about 40 Air Reserve Technicians in maintenance. Like flight crews, these are joined by reservists. The 71st uses no contractor maintenance, and its avionics shop does its own repairs on the FLIR and other mission equipment. 'The reservists are, to a man, highly experienced people,' observes 71st Operations Officer Major Mike Shook.

The 71st is to exchange its six MH-3Es for six Sikorsky MH-60Gs (see *DH* October 1991). 'It's going to be a sort of sweet-and-sour conversion,' observes Lt Col Davis. 'It's going to be a nice airplane to fly, but it's awfully small. The H-3 cabin area is real nice.' The MH-3E has some 960 ft<sup>3</sup> of cabin space, the MH-60G just 410 ft<sup>3</sup>.

The 22,050 lb MH-3E has about the same payload as the MH-60G, but the new helicopter has a modern mission equipment package and generally better performance. The 71st is already discussing plans for helicopter-versus-helicopter evasive manoeuvring exercises with Apaches of the Utah National Guard.

## The 71st's avionics shop does its own repairs on mission equipment.

HH-3Es from Air Force search-and-rescue units are already lined up on the Davis-Monthan ramp on their way to the desert 'boneyard'. The 71st is scheduled to receive its first two MH-60Gs this October and the last of the new aircraft by the end of January 1993. Flight crews will transition to the Pave Hawk at Kirtland Air Force Base, New Mexico, and will use an Army UH-60 simulator at Fort Lewis, Washington until the new MH/HH-60G simulator is operational at Kirtland. At the same time, maintainers will have to take time off from their civilian jobs to go back to school on the Pave Hawk. According to Lt Col Davis,

'From the time we receive our last H-60 to the time we're mission-ready shouldn't take too long because of the experience of the people.'

In the meantime, the 71st SOS continues to fly training exercises, drug interdiction, and the occasional rescue. Rescue work takes concentrated training, but the 71st is called upon as a last resort in the worst conditions. The MH-3s have an ARC-513 police-band radio. Capt Maxwell flew a successful rescue on night vision goggles last August that lifted a badly injured hiker from a canyon ledge. The MH-3 dumped fuel to hover near canyon walls, out of ground effect at 7,500 ft on a no-moon night to pay out the full 240 ft of hoist cable and reach the rescue litter. The squadron has been credited with about 20 such saves since 1987.

Davis-Monthan Air Force Base has a Heritage Park with an F-105 and other retired veterans preserved for posterity. An H-3 is being added to the collection, and before it a monument to the 71st SOS commander and the three other Air Force Reserve crewmen and 11 active duty Army Special Forces troops killed in a training accident in March 1989. The monument is a reminder that Special Ops mission profiles are fundamentally dangerous. It is also a reminder that there are reservists ready to work and sacrifice to add their needed skills to the total force. □

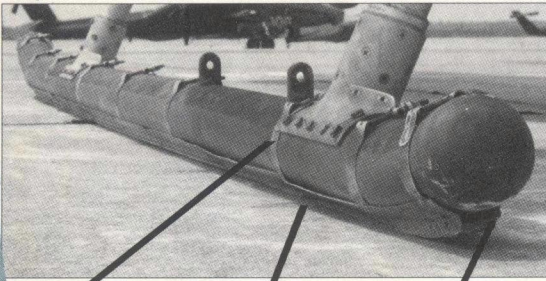
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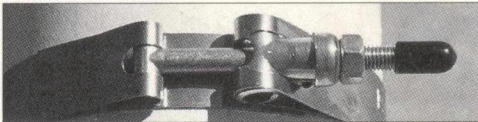
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