

Joint Task Force Proven Force and the Gulf War (Part 5)



Shaikh Isa's living areas. (Victor Ballanco)

Theo van Geffen

After Iraq occupied Kuwait on August 2, 1990, Saddam Hussein exclaimed it as his country's 19th province. The United States and their allies responded quickly and in force, by, among others, deploying a score of aircraft types to the Gulf Region. In mid-January, a second front was opened from Incirlik Air Base (Turkey). Earlier we looked at Joint Task Force (JTF) PROVEN FORCE, B-52G, EC-130E, and EF-111A combat operations, and the development of EC-130E, EF-111A and F-4G Advanced Wild Weasel aircraft. In this part 5, the focus is F-4G (combat) operations in DESERT SHIELD/STORM and PROVEN FORCE. Part 6 will deal with F-4G post-war combat operations.

After President Bush's meeting with the National Security Council on August 4 and an August 6 Saudi request for military assistance, it was decided to deploy U.S. forces. Prior to this, on August 2, CJCS (Chief, Joint Chiefs of Staff) had issued a warning order, alerting CENTCOM (Central Command), MAC (Military Airlift Command), SAC (Strategic Air Command) and TAC (Tactical Air Command) to prepare to deploy, and a partial deployment order to the U.S. Navy. In anticipation of air deployments, SAC tankers were operating from seven locations in Europe and Asia, while at 2130Z on the 6th, the NGB (National Guard Bureau), in response to a request, reported the ANG (Air National Guard) could provide 30 KC-135s for 30 days on a volunteer basis and began polling units for exact information.

Phase I Deployments

It is interesting to notice the Force Requirements and Deployment Schedule/U.S. Central Command Preliminary Planning for USAF for Week 1, mentioned no F-4Gs, but one squadron of F-4Es on C+3.

On 07/0050Z August 7 ('C-Day'), CJCS issued initial deployment orders, including two F-15C squadrons and 'sufficient' E-3A/B Airborne Warning and Control System (AWACS) aircraft to maintain one 24-hour CAP (Combat Air Patrol), plus air refueling assets as required. Later that day, CJCS issued additional orders for deployments 'as soon as possible' (two U-2Rs and three RC-135s) and 'over the next nine days' (including four C-130, one F-15E and six F-16 squadrons). At 1400Z, the USS Independence with its Carrier Battle Group arrived on station in the Gulf of Oman.

In a 08/0330Z August message, CINCCENT (Commander, Central Command) informed JCS the number of requested F-16 squadrons was decreased to four, while a large number of other types of aircraft was added, including four C-130 and four A-10 squadrons. Also added was an F-4G Wild Weasel squadron. At 1733Z, CJCS amended his requirements, decreasing the number of F-16 squadrons to two, deleting three E-3A/Bs, but adding an F-4G squadron.

Five E-3A/Bs from Tinker's 552nd Airborne Warning and Control Wing (AWCW) arrived at Riyadh (Saudi Arabia)

on the 8th, preceding 23 fully armed F-15Cs of the 71st TFS/1st TFW which arrived that afternoon from Langley (VA) at Dhahran, also in Saudi Arabia. One Eagle had to divert. In his 09/0355Z August message, CINCCENT designated Dubai (United Arab Emirates, UAE) as bed-down base for the F-4Gs. The Pentagon announced on the 10th the operation was called DESERT SHIELD.

With the September 12 arrival of the last of five AC-130s at King Fahd Airport, all Phase I aircraft had closed in-theater for a total of 962 fixed-wing (of which 600 combat) and approximately 1,100 rotary wing aircraft. Thirty-six F-4Gs were at Shaikh Isa, Bahrain. It was mandatory for all U.S. personnel arriving in theater at all bases, camps, etc. to read General Order #1, which was rather lengthy and covered pretty much all aspects of day-to-day life to include such as rules of conduct, prohibitions, host countries customs and sensibilities, and things not to do.

Phase II Deployments

After SECDEF (Secretary of Defense) Richard Cheney directed the deployment of additional forces to the Gulf Region, CJCS, in his 16/1540Z November message 'Follow-on Air Forces for Operation Desert Shield', to CINCCENT issued the deployment order of 283 aircraft, to arrive in the AOR (Area of Responsibility) not later than January 15, 1991. Included were 12 F-4Gs. Forty-two A-10As were to arrive not later than January 30. One-hundred-and-one aircraft were to be on-call for deployment within 120 hours after the beginning of hostilities.

To provide forces to support USCINCENT, US-CINCEUR (Commander, European Command) in a 19/1313Z November message 'Follow-on Air Forces' ordered Hq USAFE (United States Air Forces in Europe) to deploy 86 aircraft, including 12 F-4Gs. In addition, 24 aircraft were placed on-call.

To prevent too many units from reporting directly to CENTAF (Air Forces Central Command) after deployment of Phase II of the buildup, two Air Divisions Provisional, ADP 14 and 15, were activated on December 5 at Riyadh and Doha (Qatar) respectively and assigned to 9th Air Force (9AF). ADP 14 exercised operational control of CENTAF-assigned TFWs (Tactical Fighter Wing) and ADP 15, of CENTAF-assigned combat support aircraft like EW (Electronic Warfare), reconnaissance, and AWACS.

On January 1, 1991, the CENTAF AOB (Air Order of Battle) numbered 1,368 aircraft, 819 combat and 549 combat support aircraft. USAFE deployed 182 aircraft, 68 in Phase I and 114 in Phase II. On January 15, CENTAF assessed that 'we have essentially completed deployment of CENTAF forces for DESERT SHIELD. We have planned, trained and are ready to conduct air operations'. The U.S.

AOB numbered 1,847 aircraft, including 1,098 combat and 749 support aircraft, including 48 F-4G Wild Weasels. Air-to-air and air-to-ground forces units remained loaded out and all airfields were operational.

(Re)deployment, 35th TFW

The primary mission of the 35th TFW at George (CA) in early August 1990 was the destruction and suppression of SAM (Surface-to-Air) systems. For this purpose the Wing had two F-4G squadrons assigned, the 561st Tactical Fighter Squadron (TFS), the Black Knights, and the 562nd Tactical Fighter Training Squadron (TFTS), which was responsible to train PACAF, TAC and USAFE F-4G aircrews.

The Wing commander, Col Merrill Karp, was advised by 12AF on August 2 to prepare the 561st for deployment to the Middle East. TAC later established C-Day and L-Hour as 07/1700Z August.

As scheduled, Lt Col George Walton took command of the 561st TFS on August 7, five days after Iraq occupied Kuwait. The next day, the Wing received the deployment order from TAC's Command Post, stating that a package of 24 F-4Gs should be prepared to deploy to the staging base Seymour Johnson (NC) and to start conducting operations by August 16. Seymour's 4th TFW flew F-4Es and could help the 561st when necessary. After Col Karp was



Emblem of the 561st Tactical Fighter Squadron. (Via Eric Bosch)

Theo van Geffen has been an aviation journalist and historian since 1977. He is from Utrecht, The Netherlands. His focus is the history of the F-105 Thunderchief and the units it flew with, and of the Air War in Southeast Asia.



Emblem of the 81st Tactical Fighter Squadron. (Via Eric Bosch)

notified to send ten spare F-4Gs to Seymour, aircrews of the 562nd TFTS were tasked and launched on August 10. As no tanker support was available six aircraft staged through Holloman (NM) and four through England (LA). The ATO (Air Tasking Order) was received on August 9 and included configuration information: 12 of the aircraft had three external fuel tanks, three AIM-7s, two AGM-88 HARMS (High-speed Anti-Radiation Missile), a full load of chaff and flares in the ALE-40 dispensers, and an ALQ-184 ECM (Electronic Counter Measure) pod, while the other 12 aircraft were configured with one HARM and a travel pod versus two HARMs. The ALQ-184 would be reprogrammed locally with the most current program, allowing aircrews to counter the Kuwaiti I-Hawk surface-to-air missiles and Cyrano radar systems confiscated by the Iraqis. Also on the 9th, Col Karp was notified by TAC's Battle Staff that due to lack of airlift, the deployment might be delayed four days. The Wing was directed on the night of August 10 to deploy 24 F-4Gs to Seymour, without having a real prospect for transportation. The next day, the Wing was informed deployment would be to Shaikh Isa, that it would be the host wing and that deployment from Seymour would be August 14. Said Col Walton in this respect,

Our destination changed four or five times in as many days while we awaited our turn to depart. When I was told we were going to Shaikh Isa in Bahrain, none of us had ever heard of it. I was certain we could find our way to Bahrain, but there was absolutely no information available about Shaikh Isa. All I had was a satellite photo of a newly finished airfield at the southern tip of this 25-mile island. That had to be enough.

Twenty-four F-4Gs, in six-ship flights, departed George, were aerial refueled four times and arrived on the

12th, joining the ten 562nd aircraft. Each six-ship was escorted by two F-4Es of the 21st TFTS. In case of an emergency with one of the Gs, an F-4E would join up and escort it to an alternate base. This was not necessary and all F-4Es landed at Seymour as well.

After several delays, mainly due to the unavailability of airlift, the F-4Gs finally departed for Shaikh Isa at 16/1600Z August. Departure was in four eight-ships, including two spares, with a 30-minute separation between each cell. Each flight joined up with three KC-135s east of New Jersey over the Atlantic. Col Walton stated,

As planned, all eight aircraft would refuel to assure everyone could in fact take on JP-4. Once this was completed, the two spares were cleared off to recover at McGuire (NJ) and then return to George. Trust me, the spares were hoping someone would break down and they could replace them and continue on with us.

When the offload of two of the three tankers was complete, they left the flight and returned to Pease AFB (NH). Tanker #3 remained and was joined by two Mildenhall KC-135s mid-Atlantic, continuing the cycle. After splitting into one-mile trail spacing for straight-in approaches, twenty aircraft landed at Shaikh Isa, with Col Walton's crew as the very first one. Two F-4Gs diverted into Lajes (Azores) when an aircrew was faced with a generator problem and two into Sigonella (Sicily), when one crew was unable to aerial refuel.

As to urination and defecation on the 15.5-hour flight, Col Walton stated,

The latter was taken care of by pre-planned high-protein, low residue meals before we left, but of course, there were no guarantees. Frankly, when you sit on something as hard as an ejection seat, the sphincter muscles have a tendency to take care of that problem. As to the former, well...let's just say, the little plastic bag with the sponge in it, took some effort to use effectively. As Forrest Gump would say, 'and that's all I have to say about that'.

Fourteen C-141s, seven C-5s, one McDonnell Douglas DC-10 and one Lockheed L-1011 were loaded by George personnel between August 16 and November 16. The latter two (commercial) aircraft arrived on August 20 with almost no prior notification. The first maintenance and support personnel arrived on the 18th, five days later followed by HARVEST BARE equipment, including tents, showers and latrines.

JCS was informed by CINCCENT in his 18/0613Z August Sitrep (Situation Report) of the arrival of the first F-4G squadron at Shaikh Isa, with 1,062 personnel and 24 F-4Gs. After the arrival, it was soon realized that much work had to be done to prepare for war. Before tents arrived and were assembled, maintenance personnel also slept in the halls of maintenance hangars and claimed any available floor space there. Maintenance personnel labored under severe working conditions for most of their stay, working at least 12 hours per day. They and their equipment were packed into just a few buildings. In addition,



F-4G hardstands at Shaikh Isa. (Victor Ballanco)

temperatures as high as 130°F and a high humidity (70-100 percent) were not uncommon. Ultimately, tents, air-conditioners and building materials began to arrive. Portable toilets, shower and movie tents, etc. were built, resulting in 'Tent City'. Initially, the Weasels were parked wing tip to wing tip. Result was the development of the base's South Loop area, starting in October, which was solid rock, covered by a few inches of powdery sand. By January 16, 1991 all four F-4G/RF-4C units and nearly every shop in the Wing's maintenance complex operated out of the new facilities. Jim Uken, the 480th TFS Assistant Ops Officer (as the 81st did not have an ADO, Jim was selected to fit that need), in this respect,

All the squadrons had their own Ops hut and briefing rooms, but we shared the larger tents that housed big briefing areas, mission planning, intel, etc. While we never trained with the RF-4C crews, they were fond of trailing our elements in and out of Iraq, using 'unauthorized' beer call signs to make the Iraqis think they were Weasels, etc.

Initially, the 35th in Bahrain was referred to by CENTAF, USAF and TAC as 35th TFW (Forward), and its remaining portion at George as 35th TFW (Rear). On September 13, CENTAF designated all units under its command as 'Deployed', the 35th becoming 35th TFW (Deployed). Finally, on December 20, re-designation followed to Tactical Fighter Wing Provisional, 35 (TFWP 35) and assignment to ADP 15. At the same time, the 561st TFS was attached and Combat Support Group, 35 (CSG 35) activated and assigned to the Wing. All F-4Gs (and later the RF-4Cs) were OPCON (Operational Control) to the Wing. Attachment of the 561st ended when the Squadron redeployed to George.

On October 10, TAC, in conjunction with CENTAF, laid the final framework for a rotation policy for the Wing, calling for each of the three F-4G wings to maintain twelve

aircraft and their assorted equipment at Shaikh Isa, while the troops rotated on 179-day intervals. However, on December 6, the Office of the Secretary of the Air Force issued a statement which also included that a specific rotation policy had not been announced and was not planned to be announced in the near future.

The response posture for the entire U.S. Middle Eastern military community was increased by the Chief of CENTCOM intelligence from Threatcon BRAVO to CHARLIE (when intelligence indicated some form of terrorism action was imminent) on December 21. It lasted until January 2, 1991 when the threat level was lowered to BRAVO and in that period, all TFWP 35 personnel were restricted to base.

By the time DESERT STORM was initiated, USAF population at Shaikh Isa was 2,532, representing 86 different bases around the globe. In the first night of the war, the Iraqis launched Scud missiles at targets in the south and this resulted at 0400L in sounds of 'Scud alarm, Scud alarm, Scud alarm. Don your masks, gloves and take cover'.

Personnel began returning to George on March 22, 1991 with the first passengers boarding a KC-10A, which arrived on 23/0600L March, and 12 F-4Gs departing for George via Zaragoza (Spain) and Hulman Field (IN). The remaining 13 F-4Gs left on March 23. All Weasels were back on the 26th. In the meantime, attachment of the 561st was ended on March 25. Personnel received a red carpet reception. On April 20, the Wing was reassigned to CENTAF Forward (Fwd) and on August 2, both Wing and Group were inactivated.

(Re)deployment, 52nd TFW

The 52nd TFW at Spangdahlem (Germany) had three operational squadrons assigned, the 23rd, 81st and 480th TFS, to perform the SEAD (Suppression of Enemy Air De-

fenses) mission, destruction, neutralization and degradation of enemy radar-directed surface-to-air threats. Unlike the squadrons of the 35th, those of the 52nd TFW each had 12 F-4Gs and 12 Block 30 F-16C Fighting Falcons integrated to form hunter-killer teams. To realize this, the 37th TFW at George (all Wild Weasel aircraft were assigned to the 37th then) transferred 13 of its F-4Gs to Spang, with the final one arriving on September 26, 1986. Jim Uken about the 'Wild Weasel' F-16Cs,

In early 1987, USAF 'realized' that because of the earlier sale of F-4Es to Turkey and their due departure, a decision had to be made about their replacement. The answer was to divert the F-16s that were initially scheduled for Ramstein. I was at the F-4G test outfit at George, working primarily on tactics development when that news hit, to include an F-16C as a wingman in all future development. Originally F-16s weren't even capable of AGM-45 Shrike employment since the type was never intended to carry them and as a result was not included in their computer weapons list. We got around that by 'lying' to the computer, telling it an AGM-65 Maverick was loaded, thus able to send a direct fire pulse. It was not until later in 1989 they got their first ability to carry a HARM with the ALIC, Avionics / Launcher Interface Computer, where a single HARM could be programmed for a specific threat before takeoff. Once the programming was set, it could not be changed. A WW F-16C could be configured with two AGM-88s. The F-4G's EWO provided targeting information to get the best results, but the F-16 pilot could employ the missile without it, but in that case the probability of a kill was considerably lower. The HARM and the Shrike were employed by the 23rd TFS in Operation PROVEN FORCE. The HTS, HARM Targeting System, which the Block 50/52 F-16CJs use today was still six years in coming.

After Iraq invaded Kuwait and before the first units of the 52nd TFW at Spangdahlem were tasked, scenarios were planned as early as the spring of 1990 for possible contingency operations that included, among others, pulling back mobility plans off the shelves and updating them, the fighter squadrons flying more long-range attack profiles, the maintainers hammering away at their periodic maintenance requirements, and the supply folks updating their WRSKs (War Readiness Spares Kit).

At the beginning of Labor Day weekend, September 1-3, 1990, the Wing was requested to determine the requirements to deploy 12 F-4Gs to a classified location. As the three squadrons at Spang were mixed squadrons and the aircrews trained accordingly, the Wing prepared to deploy such a mixed force. However, the alerting message stated later very clearly that CENTCOM was looking forward to welcoming F-4Gs only and at Shaikh Isa in two days: CENTCOM already had enough AGM-88 HARM shooters, but wanted aircraft that could employ the missile to engage the most threatening system to strike packages, the radars necessary to support SAM and AAA sites. As Lt Col Randle Gelwix was the only squadron commander who was F-4G qualified, the 81st TFS was selected to deploy.

The result was that one-half of the Squadron was packed up and deployed overnight, something Col Gelwix had found difficult to tell his F-16C pilots. To do so, [81st TFS aircraft and aircrews were recalled from Karup (Denmark), where they participated in NATO exercise Oxboel, while those of the 23rd TFS were recalled from Zaragoza (Spain) while on a month-long semi-annual Weapons Training Detachment (WTD)], maintenance feverishly generated the F-4Gs for immediate combat operations (Intel had indications Saddam Hussein was about to launch his forces further south into Saudi Arabia), i.e., they were configured with three fuel tanks, two AIM-7 Sparrows, two HARMs, chaff and flares, and an ALQ-131 ECM pod. In the meantime, for instance, flight plans, dubbed DUE REGARD, were prepared, divert data arranged and was determined which people would be deployed. When USAFE finally announced that KC-10A Extenders were sent to Spang for the airlift of personnel and equipment, the load had to be re-planned, as the Wing's Resource Plans had prepared plans for airlift by C-130s, C-141s and C-5s, but not by KC-10s.

Twenty aircraft were prepared, 18 started and 16 were launched. When any F-4G would have an issue after launch, its aircrew and his lead/wingman would peel off as a two-ship, their place being taken by a spare element. At 0230L on September 5, led by Gelwix and Uken, 12 F-4Gs were launched, eight of the 81st and four of the 480th TFS, plus four spares. The best aircraft were picked, which would not need phase inspections for a while. The four aircraft, aircrews and maintenance/support personnel of the 480th flew under the flag of the 81st. Once into France by some 50 miles it was go-no go decision time. No spares were used. The flight went down the center of France, exiting into Mediterranean airspace, and turning east once in the middle. Once Cairo was off the right shoulder, a turn was made south, flying down the Nile, turning left at Luxor, flying east across the Red Sea to Jeddah. In Saudi airspace it



During DESERT STORM aircrews of the 561st and 81st TFS flew their missions separately. During DESERT SHIELD at least one exception was made, when aircrews of two 561st TFS F-4Gs (WW) and two of the 81st (SP) posed while on a training mission over Bahrain's coast line for MSgt Bill Thompson's camera. The F-4Gs are configured with four AGM-88 HARMs, High-speed Anti-Radiation Missiles, each.



F-4G 69-7202 of the 81st TFS in its hard stand at Shaikh Isa. The Weasel is configured with two AGM-88s. The 52nd TFW patch was removed. (Victor Ballanco)

was Wedj, Riyadh, Dhahran, basically flying about 100 miles south of the Iraqi border. Then into the Persian Gulf just north of Bahrain, down its east shore until landing at Shaikh Isa on the very southern tip, after eight hours and in 114-degree weather. All aircraft were 'Code One', bringing the number of F-4Gs to 36. The 35th TFW was supposedly surprised USAF had tapped the 81st to add WW forces. They had expected the Wing's second squadron, the 562nd TFTS, would be deployed for the augmentation, but the 562nd had a dedicated training mission and was not mission ready. The 81st was sensitive to this and tried not to act as invaders. After a few days, it was no problem.

The aircraft were parked on the taxiway south of the main ramp, approximately one mile from all support facilities. The aircrews spent their first couple of nights in tents on cots with sleeping bags. The support team arrived early next morning, while three KC-10s transported some 180 personnel and equipment. Within 24 hours after arrival, personnel and aircraft were integrated in 35th TFW Fwd. The 81st kept its unit identity as much as possible, but this was exclusively for internal operations. In this respect, Jim Uken stated,

The squadrons stayed pretty much separate. I never sensed any competition of any sort the entire time we were there. In general and being in a fairly small community, many of the guys knew guys in the other squadron from previous assignments. We deployed and flew in the same four-ships at Shaikh Isa from Day One all the way until the squadron realignment on January 1, 1991. My pilot was Capt Kirk Kingsley, who was also flight lead. Since I knew aircrews of both squadrons, I was tasked by Col Gelwix to build eight 'go-to-war four-ships'. As I was seeking an equal distribution in the new squadron 'blend', I paired myself with Col Gelwix. I don't remember a single exception where the 81st and the 561st flew a DESERT STORM mission together.

As the 561st TFS was the first to deploy, the structure was built around the 35th TFW.

It was the beginning of a very successful cooperation, living, working and flying side by side with the Wing. As of the third day of arriving, 81st crews went through a local area familiarization phase with both day and night sorties. Although at Spang it was not unusual to fly with just about everyone, at Shaikh Isa ultimately eight 'hard' four-ships were formed, which included the Clark aircrews: for the duration of the war, the pilot and EWO would fly together and in the same flight. By the end of the first week, the Squadron assumed one-third of the Wing's alert commitment with four aircraft pre-positioned and ready for 24 hours every third day.

In about week three, the 81st moved into its own facilities, having a separate, secure planning area. It was called the 'Secret Squirrel Cage' and discussion and details at Shaikh Isa were kept to only the Wing (CC and DO), Squadron commanders and MPC (Mission Planning Cell) members.

Maintenance made sure their Phantoms were ready to launch, while supply personnel jumped on the job to build the vital logistic train. Others were tasked to 'build an air base', like an immense hydrant system from scratch, fed by 50,000-gallon bladders, which they connected with more than 300 miles of portable pipe and to erect the tents that would prove to serve as home for the next seven months. When Shaikh Isa was constructed, it was planned for only 800 people. Eventually, the base would house 6,000, assigned to four AF units, eleven Marine Corps (MC) squadrons, plus two squadrons of the Bahrain Amiri AF. Over 200 aircraft were operating from a single runway. In the November 10-16 period, two replacement F-4Gs arrived from Spangdahlem as part of a scheduled F-4G rotation. By November 30, the 52nd had 219 personnel at Shaikh Isa.

After this initial deployment, the Wing was regularly tasked to perform studies to deploy either to one location or another, or reacting to alerting messages, resulting in the 52nd maintaining a constant readiness to deploy, anytime and anywhere. The week before Christmas brought clarity as the deployment order directed the Wing to deploy an additional twelve F-4Gs to Shaikh Isa, the remaining aircraft and aircrews of the 81st and 480th TFS. This time personnel had to be recalled from leave. When all preparations had been made, the weather showed its unpredictable side and waiting started on a day-by-day basis for it to clear. Finally, on December 26, weather allowed the twelve Phantoms to launch. In his 27/0800Z December Sitrep, CENTAF Fwd informed CINCCENT of the arrival of 11 F-4Gs at Shaikh Isa, followed by a latecomer, increasing the number to 48. A total of 596 Wing personnel accompanied the F-4Gs, including some 240 in the 81st AMU (Aircraft Maintenance Unit). When the second increment arrived, officers went back to eight officers to a room, while other personnel crammed even tighter into their tents. But yet, the new arrivals were welcomed warmly. To generate the high number of sorties in DESERT STORM, 'dining in' at the flight line and 'combat napping' became the rule for the personnel.

After departure of the remaining F-4Gs of the 81st and 480th TFS, the 52nd TFW was realigned, one squadron with 24 F-4Gs, the 81st, and one with 24 F-16C/Ds, the 480th TFS. The third squadron, the 23rd, remained unchanged, 12 F-4Gs and 12 F-16C/Ds.

Redeployment was initiated on April 5, 1991 when eight aircraft returned to Spang, followed on May 10 by another eight Phantoms. Of the remaining eight F-4Gs, four



Sgt. Todd Nelson of the 52nd TFW is checking the Mode 4 on an F-4G on the parking ramp area. Mode 4 is a military discrete variant of ATC's Identification Friend or Foe (IFF) used throughout the world. Mode 4 is an encrypted IFF, changed daily, and thus the reason for being checked before takeoff, especially when used in combat operations. (USAF, MSGt Bill Thompson)

returned on June 27, with the final four still at Dhahran as of December. Left behind at Shaikh Isa were the aircraft, aircrews and support personnel that had deployed there in late December 1990.

The 52nd also supported Operation PROVEN FORCE at Incirlik, Turkey with personnel and aircraft. The combined (Incirlik/Shaiikh Isa) 36 F-4Gs and 12 F-16Cs were supported by 1,300 personnel and 6,000 tons of equipment. More than 3,900 sorties were flown with 7,200 flying hours. Radars were hit 142 times. The deployment of the 23rd and 81st TFS meant only one of the fighter squadrons, the 480th, remained at Spang, not as a mixed squadron of F-4Gs/WW F-16Cs, but of 24 WW F-16Cs. Yet, they, commanded by Lt Col Jim Allgood, played an important role. For instance, they provided the senior supervision and instructors to bring the newly arriving aircrews to mission ready status and possible deployment and supplied 'spare' bodies for every other tasked deployment. As the 52nd TFW background document stated, 'The 480th TFS stayed at Spangdahlem in body, but not in spirit'.

In August 1990, Lt Col Edward 'Victor' Ballanco was the Chief of Weapons and Tactics Division of the 52nd TFW. He was attached to the 23rd TFS for flying. Wing Weapons had two F-4G and F-16C pilots and two F-4G EWOs. As he was assigned to the Wing, he did not expect to deploy. However, after receipt of the Execution Order, Col Rudi Peksens, the Wing commander, pointed at him and said, 'Victor, you're going, I want you to make a SEAD campaign happen' (based on the 1982 Israeli Bekaa Valley experience and the confidence in the HARM capability, Wing Weapons developed a SEAD Campaign concept for Wild Weasel employment in NATO. Analysis indicated it could be very effective even against the full-up Soviet IADS NATO faced across the Iron Curtain. The Wing wanted NATO to employ the Weasels using a campaign approach, not in a piecemeal fashion. Also, medium/high altitude airspace was required so that the F-4Gs could be loaded with four HARMs and one external fuel tank, rather than the usual two and three respectively. A timeframe in which 'low' was the standard, this was 'swearing in church'. This caused very heated briefings. During a Green Flag exercise in July 1990, the USAFE planning staff, with much resistance from the Green Flag Staff, tasked the missions at medium to high altitude and demonstrated a SEAD campaign. This concept was not well received by all the participants, but the two USAFE DOs were strongly behind the concept and training program. It would not be long, before the lessons learned in the training program and in Green Flag could be put into practice). Victor arrived at Shaikh Isa per KC-10 late in the evening of September 5. The Extender, which escorted and refueled the F-4Gs, also transported maintenance personnel. Victor said,

My primary job was mission planning, as a minimum for the 81st, and eventually for the 35th TFW, but also flew quite a few sorties, normally with different EWOs. Fortunately, after reading into the top secret Desert Storm plan, I quickly saw there was no need to convince anyone in CENTAF of the need for a SEAD campaign: it was already



There were 28 hot pit refueling stations at Shaikh Isa, ten of which, just north of the F-4G parking area, were solely dedicated to Phantom operations. After each mission, the F-4G/RF-4C would be taxied to the hot pits, stop, and be pushed back into a refueling position. Once gassed up, the aircraft was taxied to the parking area. It looks like the HARMs were expended. The ECM pod is an AN/ALQ-184. The refueling port behind the cockpit is open. (USAF)

planned. A few days after arriving I went to CENTAF in Riyadh to meet the planners in the "Black Hole", where BG Buster Glosson was in charge of overall planning and BG Larry Henry of SEAD planning. After this trip I made several trips to meet the units and plan the missions face to face. Since the C2 aspect of the air campaign were well in-hand, we had to apply the proper SEAD to maximize our effort. The Israeli Bekaa Valley operation had also been studied by the CENTAF planners, and we more or less modeled the SEAD campaign on that. Gen Henry decided we needed drones to help stimulate the SAM radar environment. He was successful in finding and obtaining the drones, so this helped with part of the problem regarding how to stimulate the SAMs to turn on their radars for anti-radiation missiles to home on and destroy. Our preferred method was drones if available, and then EF-111A and EC-130H standoff jamming. We hoped to engage and kill the SAMs before the attackers entered the threat rings. If the threats did not cooperate, we would ensure we were positioned to protect them. This was the classic Weasel 'First In-Last Out' approach.

As the forces were plussed up beginning in November, most of the coordination was done, using ATO updates (ATOs specified the targets, TOTs, dedicated aircraft and air refueling information). SPINS, Special Instructions, also spelled out further coordination use, such as the WW SAM priorities, and communications through STUs, Secure Telephone Units. Many of the missions expanded after that time, but the basic plan remained essentially the same. F-4G flight leads were brought in on the plan about ten days before execution. This allowed them to continue the final coordination while the planners tried to look at the bigger picture.

Because of the threat environment (approximately 300 radar-guided SAMs, over 3,000 IR-guided SAMs and over 6,000 AAA pieces), the long distances that had to be trav-

eled, the fact that the first missions were at night, and the possibility the Iraqis could use chemical weapons, it was determined that medium to high altitude employ would be best. It would give the APR-47 optimum detection and ranging capabilities and the HARM had a longer employment range. It came with a disadvantage though, as the minimum range of the missile increased.

According to Victor he did not lead any of the flights, although he planned the missions. This enabled him to concentrate on the big picture and leave flying ops to the flight commanders, 'who were damn good', as he stated.

(Re)deployment, 3rd TFW

The 3rd TFW at Clark AB (Philippines) had two squadrons assigned, the 3rd and 90th TFS with the latter performing the defense suppression mission. The 90th had integrated its F-4Gs with the E model of the Phantom to form hunter-killer teams. Six complete F-4G aircrews, who were on volunteer standby status, arrived TDY at Shaikh Isa on January 30, 1991. The crews, attached to the 81st TFS, formed 'hard' crews and flew either as a hard four-ship, or two-ship, although crews were swapping positions. Uke in this respect,

When the 'new' 81st TFS was formed after arrival of the 480th TFS crews in late December 1990, Col Gelwix was tasked to put eight 'hard' four-ships together, comprised of a mix of aircrews that were already at Shaikh Isa with the newly arrived 480th aircrews, plus the 81st guys who had not deployed in early September. Every sortie the 81st four-ships flew until January 1, 1991, had the same lineup. As the 561st TFS had the 'luxury' of deploying many of the 35th TFW staff officers, they actually had about six more crews available for flying than we did. However, our tasking was the same as theirs and if one of the crewmembers got sick, that sortie did not go, as we had no spare aircrews. We finally got some relief when the Clark F-4G aircrews



A pair of F-4Gs of the 81st TFS being refueled by a KC-135 Stratotanker. The aircraft closest to Victor Ballanco's camera, 69-7571, was lost on Day Three of DESERT STORM, January 19, on a night Wild Weasel mission. The aircraft ran out of fuel after it was hit by AAA. The crew, Capts Tim Burke and Juan Galindez (EWO) ejected safely and were back to business two days later.



The crew of this 561st TFS F-4G is banking away from the KC-135 they refueled from. The refueling port, located behind the cockpit, is still open. The aircraft is configured with at least two fuel tanks on the outboards and two HARMs on the inboards. (USAF)

showed up, allowing a four-ship to get a break every 8-9 days.

PACAF also planned for F-4Gs assigned to the 90th to go to George to back-fill any shortages. The aircrews returned to Clark on March 13.

Training

After arriving at Shaikh Isa, the 35th TFW maintained F-4G alert to accomplish the SEAD mission. However, in the light of the anticipated Iraqi threat into Saudi Arabia, aircrews expressed the need for air-to-air training. This necessitated live ordnance to be downloaded and external fuel tanks to be changed, obviously compromising mission preparedness. The solution was found in keeping the majority of the F-4Gs on alert and reconfigure six aircraft for air-to-air combat training. To meet both the USAF and Marine Corps fuel requirements, hot pit refueling quickly became the preferred method, establishing four hot pit areas. Each pumping unit contained four refueling points. During DESERT SHIELD, the hot pits dispensed an average of 280,000 gallons of fuel per day to USAF, MC and BAAF aircraft.

Two areas were noticed by Col Karp that needed attention after the arrival of the Spangdahlem aircrews, (1) inter-operability (to fly similarly and have similar procedures) and (2) night flying (the 81st flew night sorties, but the 561st did not). As to (1) Col Karp brought in the DO (Deputy for Operations), Col Gene Patton, who fixed it; as to (2) Col Karp decided to fly at least 50 percent of the sorties at night. In addition, both weapons and tactics officers, Lt Cols Victor Ballanco and Bradley Ellico, suggested training should also include more medium altitudes (10,000-20,000 feet) for both the direct support roles and CAS (Combat Air Support), as it would enhance the survivability of the F-4G and permit the aircrews to use the HARM

to its fullest potential, as AAA was considered their primary surface-to-air threat.

Training accomplished in DESERT SHIELD knew three categories, (1) desert acclimatization, (2) local-area orientation, and (3) mission preparation.

Until January 9, 1991, more than 160 ATOs were produced with an average of some 750 daily training/operational sorties. The next day, CENTAF units began a gradual aircraft load-out and increased their alert posture. By the 13th, 60-70 percent of the air-to-ground units and all air-to-air units were combat-configured and loaded.

On September 8, CENTAF initiated a weekly integrated-package flying training program. Initial packages were single-service. But after the 12th, emphasis was placed on the creation and operation of large force packages by including other services and Coalition forces with, for example opposition air, escort fighters and Wild Weasel support. The purpose was to promote interoperability of friendly forces, conduct integrated training with allies, and exercise package operations. As planners assembled packages, they coordinated their support to make scarce resources, such as F-4Gs and EF-111As, available to support as many of them as possible. For instance, targets and missions of B-52Gs were to be supported by as many F-4Gs as possible. The bulk of coordination with the external units was done by the Mission Planning Cell, most of it during DESERT SHIELD. Once DESERT STORM started, the MPC did the initial coordination and left the



561st TFS F-4G Wild Weasel pilot Capt Clyde Bellinger and EWO Capt Randy Thompson inspect an AGM-88 HARM prior to flying a nighttime combat mission during DESERT STORM. (USAF, TSgt Fernando Serna)



Air refueling was a mere necessity for F-4G aircrews due to the distances from Shaikh Isa to targets in Iraq. That's also why aircraft were configured with only two AGM-88s and not four as was in general the case on missions to Kuwait. F-4G 69-0286 of the 81st TFS is being refueled by a KC-135 of the 380th Bomb Wing (Plattsburgh, NY). (Victor Balanco)

contact information for the Mission Commander to do any final coordination over the phone.

Packages increased in size and complexity as DESERT SHIELD progressed. For instance, on October 7, 12 F-4Gs participated in three packages, (1) with 40 F-16s and four F-15Cs; (2) six F-16Cs and four RAF Tornados; and (3) 16 F-16Cs and six RSAF Tornados. Jim Uken in this respect,

Coordination was a never ending process, largely as additive forces kept arriving in the theater all the way into early January 1991. From a macro level, targets were selected, assets to attack those targets, and then timing and target de-confliction had to be considered and finally all the support assets added, such as Weasels, jammers, tankers and CAPs. One change in the Master Attack Plan (MAP) could have a ripple effect. To this day, I can't believe we never had a mid-air collision given 2,000 aircraft in the same airspace at the outset, many with no air-to-air radar.

Other training missions included practicing threat suppression profiles and communications by electronic combat assets (F-4G, EF-111A, EC-130 and EA-6Bs), the first of which was flown on September 9. F-4Gs also flew training missions with B-52Gs. For instance, on September 23, five B-52Gs on a low-level strike mission were supported by F-4Gs, which provided defense suppression.

Examples of training exercises were, (1) INITIAL HACK, October 24-26, included practicing pre- and post-strike air refueling, airfield attacks, CAS, and Command and Control (C2) procedures against a simulated D-Day ATO; aircraft in eighteen packages, involving some 40 Coalition air units, flew more than 300 simulated combat and 200 other sorties; (2) IMMINENT THUNDER, November 15-21, to closely simulate D-Day ATOs and practice CAS and CSAR (Combat Search and Rescue). Combined strike packages, CAS and CSAR were flown by U.S., Saudi, British, Kuwaiti, French and Canadian forces. One thousand aircraft participated with 4,000 sorties flown; and (3)

DESERT FORCE, December 5-7, by 317 aircraft in 12 packages, plus 114 aircraft exercising CAS.

Desert Storm

Gaining and maintaining air superiority was the prime concern during the first days of combat operations and in this respect Electronic Warfare was to play a central role in the neutralization of Iraqi's air defense system (air superiority was declared on January 27). It was planned as the second Phase of the campaign and took place in conjunction with Phase I, the physical attack of KARI, Iraq's automated Command and Control system, which was built by French contractors. Assets included airborne and space systems. EW's mission included collection of electronic intelligence and suppression of Iraqi electronic capabilities. To keep Coalition losses as low as possible, EW assets were of greater importance to overall air operations than ever before. As to airborne assets, an array of specialized aircraft was employed, like F-4Gs and EF-111As. In addition, two types of radar-decoy drones stimulated Iraqi radar activity, (1) Navy A-6E Intruders launched ADM-141 Tactical Air-Launched Decoys (TALD) and (2) Grumman (Navy) BQM-74C Chukars were launched from Saudi Arabia by personnel of USAF's 4468th Tactical Reconnaissance Group, SCATHE MEAN. The Group arrived on November 7, 1990 at King Khalid Military City, Saudi Arabia.

To destroy Iraq's air defense radars, USAF had 61 F-4G Wild Weasels stationed at Shaikh Isa and Incirlik, 63 percent of its F-4Gs. Like all EW assets, Weasels were in limited supply, resulting in a concerted effort to maximize their use by piggybacking as many attack packages as possible into a given area at a specific time. Jim Uken stated,

The demand for electronic warfare assets far exceeded the availability. There was a famous message that came from Gen Chuck Horner, CENTAF's Commander at Riyadh, stating that CENTCOM was doing their best to allocate available EW assets against the highest priority, best defended targets and commanders at the bases should stop complaining if they didn't get Weasel support. If we had followed standard USAF tasking rules, we would have generated 64 WW sorties a day between the two squadrons. Reality was we far exceeded this the first week, but it was beginning to become a safety factor as average missions exceeded five hours airborne and crew rest requirements were being waived between missions. Given the amount of adrenaline created by the many missions, many of the guys were having trouble trying to get what little sleep they should have been getting.

SEAD tactics changed when threat activity diminished toward the middle of the war, especially in the KTO (Kuwait Theater of Operation). For instance, by not accompanying all strike packages, each F-4G element was enabled to cover 30-40 strike formations there, resulting in an EW umbrella. EWOs conserved HARMs by using the F-4G's AN/APR-47 Radar Attack and Warning System (RAWS) to see and attack threats as they came on the air.

Wild Weasels then became more available to support packages as they struck 'kill boxes' in the KTO. Kill box designators were used by most everyone as a convenient and simple way to direct aircraft on missions. They were based on the Saudi Air Defense Map grid. There were 22 named kill boxes, like AE 5 through 8. A total of 732 strikes were flown by F-4G crews, of which 295 in named and 437 in unnamed boxes. For example, crews located and attacked mobile SA-6s deployed with the Republican Guard. As Jim Uken explained,

Our mission gravitated from almost 100 percent direct support to strike packages to a combination that included kill boxes, primarily for A-10s and F-16s striking targets of opportunity. This became known later as what we called the Weasel Police mission, or in other words, a Weasel Combat Air Patrol. The mechanics were simple. Take three 2-ships and stagger their takeoff times by 40 minutes. Hit a pre-flight tanker and then fly into southern Iraq, which was divided into 30-mile square kill boxes, each having an active time. Forty minutes on station time and the two-ship behind you arrived and you headed back to the tanker to get another load of fuel. Second two-ship was replaced by the third one and then you replaced them. And then do it all over again for what we called a 'triple pump'. In this way we had continuous presence in the region for six hours and with subsequent six-ships, were able to cover 24 hours with 24 sorties. They were long missions though, average was 5.5 hours.

Victor added,

We encouraged CENTAF to develop an airspace de-confliction plan for the KTO, as aircraft were all over the sky, which at night was both dangerous and nerve wracking, negatively impacting mission success. Towards the end of the war, the Weasel Police missions were pretty boring, as SAMs were not turning on their radars or shooting at anyone. We had achieved air supremacy from surface threats through our SEAD campaign. Many of the Weasels sat over the KTO at night and counted the oil well fires. One night 200 were counted, which was quite a sight.

When dominance became so complete that tanker aircraft could accompany F-4Gs further north, their aircrews were able to remain on-station even longer.

In addition, USAF had 12 'Wild Weasel' F-16Cs available at Incirlik with AGM-88 capability, while the Navy/Marine Corps deployed A-6Es, A-7Es, F/A-18A/Cs and (27) EA-6Bs from six carriers (Navy) and Shaikh Isa (Marines) with HARM capability.

F-4G aircrews flew three mission types, (1) autonomous, (2) direct support, and (3) area SEAD. During (1), targets were attacked in a particular geographic area to reduce Iraqi air defense threats or roll back the air defenses for upcoming Coalition air operations; during (2) F-4G aircrews joined aircraft flying attack missions and carried out SEAD that could pose a threat. Most of the missions were direct support ones; and on (3) F-4Gs were not

tied to a particular strike force, but provided SEAD support for numerous strikes against various targets. In-flight refueling was required for all missions. While over the target area, the crews planned on about ten minutes of serious 'hunt and kill' work. As the standard Weasel configuration used for long station times was two AGM-88s (and three fuel tanks), aircrews believed they would probably be out of the target area in quick order. As to the configuration Jim stated,

The first days, the 81st TFS had 16 F-4Gs that carried four HARMs each. On about the third day we reconfigured as there were not as many SAMs operating in the KTO. The difference was the depth of penetration into Iraq. Anything going into Kuwait or southeastern Iraq, carried four and all else had two. Since we trained as set four-ships and 'Weaseling' was such a fluid mission, I am sure all the four-ships set up their own HARM shot de-confliction plan. Something as basic as lead has SA-2 B/F, #2 has SA-2 C/E, #3 has SA-3 and #4, SA-6. Most four-ships reserved the option for lead to be directive, e.g., '#3, target the SA-6 at your 3 o'clock'. Since we literally had months to train together, we had every possible "if what" covered. A great example, our first mission quickly degenerated into four "singles", as we had all "gone defensive" from being targeted multiple times. First rule is to defeat the threat, then worry about where the other guys are. We all came out single ship, which was just fine with all of us. The other de-confliction rule, "If someone is launching on you, shoot back as your HARM is faster as long as you react quickly". Since only one jet could be targeted at a time, you know the other guys are clear from this one. Three of our shots the first night were reactions to SA-6s being fired at us. See also later.

The afternoon prior to the beginning of DESERT STORM, a general officer of the CENTCOM Staff arrived



F-16As of the Air National Guard also participated in (daylight) combat missions on the opening day of DESERT STORM. Included were 16 aircraft of the 138th TFS (New York ANG). Their target, SA-2 sites near Ahmed Al Jaber Airfield in Kuwait, was to be struck by the 32 Mk 84 2,000-pound bombs the F-16As were configured with. In addition, the aircraft carried two AIM-9s and an AN/ALQ-131 ECM pod. The photo shows F-16A 79-0352 of the 138th TFS on 'last chance' at Al Kharj, prior to its very first combat sortie on January 17. (USAF, MSgt John Luszczyk)

at Shaikh Isa from Riyadh and told the assembled aircrews, 'Gentlemen, tonight we ride'.

The Beginning

The Coalition's first weapons struck Iraqi targets on 16/2339Z January (17/0239L), D-Day (Army AH-64A Apaches, firing 27 AGM-114 Hellfire missiles, 100 2.75-inch Hydra rockets and 4,000 30-mm rounds. This was the only time Army assets were part of the [MAP or ATO, Air Tasking Order]). This MAP, called 'First 24 Hours', provided for 25 large-scale SEAD attacks. Sixteen F-4Gs of the 561st TFS and 12 of the 81st launched, starting at 0150L. Takeoff was in flights of four, with an interval of 20 seconds between each Phantom. Call signs used were brand name beer logos, like Miller, Strohs and Falstaff.

One of the SEAD strikes was directed at H+40 (0340L) on the first night, against the area south and west of Baghdad. USAF struck the former and the Navy the latter area. A total of 48 aircraft were involved, including 12 561st TFS F-4Gs, led by Col Walton. The 20-minute basic brief started a little before midnight. Split was then made to four-ship briefings with call signs Coors 31-34, Lonestar 41-44 and Michelob 51-54. As to the call signs, Col Walton explained,

They came up a few days prior to the beginning of DESERT STORM. I received a phone call from one of the planners in Riyadh, who asked me what call signs we would like to use. My first preference had already been taken by another fighter squadron, so I thought for a few seconds, remembered we had been without beer or alcohol of any sort for months, and proposed to use beers as our call signs. He responded, why not? Our call signs were distinctive, recognizable, unforgettable, and as the Campaign progressed, folks knew who the Weasels were.

The aircrews stepped at 0025L for a 0055L engine start and it was planned to have all aircraft armed and on the runway for a 0125L takeoff.

Other participants were three EF-111A Ravens (USAF), and three EA-6Bs, which carried no HARMs (Prowlers were primarily used as jammers, as carrying AGM-88s meant giving up room for jammers), with their three F-14 Tomcat escorts, two A-6E Intruders, ten F/A-18 Hornet and eight A-7E Corsair II HARM shooters, and three KA-6D tankers, all from carriers in the Red Sea. The effort was covered by four additional A-6Es with TALDs, to further confuse Iraqi defenders. In addition, slightly behind the western package, four A-6Es and four RAF Tornado GR.Mk1s struck Al Taqaddum Airfield. It was planned to approach from numerous directions, force a reaction and destroy the radars. Each of the three EF-111As (and EA-6Bs) established an orbit, while BQM-74Cs were launched to stimulate the IADS, Iraqi Air Defense System. When the Iraqis activated their target acquisition radars, they were jammed by Raven and Prowler crews, forcing the radars to increase their vulnerability to AGM-88s. A-7E and F/A-18 crews fired 51 HARMs, 45 in their pre-briefed mode, at targets already designated as known SAM



RF-4Cs were relative latecomers to Shaikh Isa. By December 25, the 192nd TRS (152nd TRG, Nevada ANG) had moved there from Al Dhafra (Saudi Arabia), bringing along two of its own Phantoms and taking over four RF-4Cs of the 117th TRW (Alabama ANG). On the photo, two RF-4Cs at Shaikh Isa after returning from a combat photo recce mission. RF-4C 64-1047 shows Alabama ANG markings, but is flown by 192nd TRS aircrews. Note '047' completed its 14th combat sortie. The ECM pod under the left wing is an AN/ALQ-131. (USAF, MSgt Bill Thompson)

sites, and six more at targets of opportunity. In addition, Intruder crews dropped 25 TALDs within 20 minutes spacing. One F/A-18C of Saratoga's Strike Fighter Squadron (VFA) 81 was supposedly shot down by a MiG-25 Foxbat. Its pilot, LCDR Michael Speicher, was killed.

After takeoff, the three F-4G flights joined in route formation and passed the lights of Dhahran. Over the Saudi desert join-up was made with the tankers, Tuna flight. Refueling took place at FL 210 and everyone topped off. Each F-4G crew was tasked to destroy high-threat mobile SAMs within their assigned area of responsibility. As F-4Gs possessed the capability to identify active SAM sites from the air, an EWO (Electronic Warfare Officer) could mark active sites from his equipment and then fire at the site by programming the HARM on board the aircraft. The F-4G SEAD package headed straight for Baghdad and then swung northeast, just short of the city. Crews picked up SAM activity 100 NM from the capital. At 0037Z, SA-8s, AAA radar, and I-Hawk came up, while 11 minutes later, activity became very heavy. While swinging northeast, EWOs picked sites that Intel had identified. When any proved to be inactive, the crew went after targets of opportunity. Col Walton and his EWO, Budman Redmond, fired two HARMs, one at a SA-2 and the second at a SA-3 radar site. With their missiles gone, Col Walton made a hard turn to the right to the egress point. All three flights post-refueled and returned to Shaikh Isa. After landing, the aircraft went through hot pit refueling. In all, 22 HARMs were expended, with ten shots being assessed as successful (46 percent), causing the targeted emitters to go off the air. Although BDA (Bomb Damage Assessment) could not be fully obtained, a significant reduction in electronic activity was noted by ELINT operators. Approximately one hour later, a flight of four F-4Gs followed on a direct support mission to the Salman Pak area, south of Baghdad. As Col Walton remarked,

None of us got a lot of sleep for the next three days. Nobody complained. Nobody second-guessed anything. Not sure how many folks needed to wind their clock, but I didn't worry about it after that night.

In the 0357-0420L timeframe, SEAD and strike packages struck two Kuwaiti air bases and Shaibah Airfield, south of Basra in Iraq. The three bases were probably no more than 30 miles equidistant. At Shaibah, the combined package was composed of three VMAQ-2 (Marine Tactical Electronic Warfare Squadron Two) and two USN EA-6Bs, ten HARM-configured Marine Corps and seven Navy F/A-18s, four Navy A-6Es, four RAF Tornado GR.Mk 1s, carrying bombs, and BQM-74 drones. The package was supported by four 81st TFS F-4Gs, Pearl 51-54, led in 97232 by Gelwix and Uken, who crossed the Kuwaiti border at H-2. CAP was flown by four USN F/A-18s. To coordinate F-4G support to Navy Alpha strikes, Jim made at least four trips to two different carriers. The Weasels carried four AGM-88s each, plus a centerline fuel tank. Jim Uken said,

It's almost like the Iraqis knew when H-hour was, as at that moment an SA-2 came up directly under our 4-ship and, since we were flying a loose route formation, we all got the same "you're being launched on" indications. As we all went defensive at the same time, that's pretty much the last we saw of each other that night. But we'd briefed every possible situation and just flexed to that plan.

At the same time, a package with one Navy EA-6B, CAP-ed by two F-14s, BQM-74 drones, eight F-16Cs with LANTIRN (Low-Altitude Navigation Targeting Infrared for Night) pods, eight F-111Fs, and two A-6Es struck the Ali Al Salem SOC (Sector Operations Center) and the Scud shelters at Ahmad al-Jaber and Ali al Salem Airfields in Kuwait. The Shaibah F-4G flight also supported the Kuwait package. Fifteen AGM-88s were expended, with one hang fire. Mission duration was 2.5 hours and Gelwix/Uken were credited with destroying two SA-6 radars and an unknown, probable SA-6 radar. The aircraft of Pearl flight were the first ones to return to Shaikh Isa. After the end of runway post-flight check, the parallel taxiway was lined with Airmen and Marines. The CONRAC recorder, which copies everything the RWR sees, HARM shots taken, emitter parameter data, etc. was given to Intel. After a quick verbal debrief, the aircrews were strongly advised to try to get some rest. Another 81st F-4G 4-ship came in 15 minutes after Pearl flight. The first night, a total of 200 AGM-88 HARMs was expended.

Victor Ballanco flew his first combat mission on the first day of Desert Storm. As he described,

On this early daylight mission (takeoff at 0722L), my EWO, Lt Col Don Whitler, and I were number six of a six-ship, Coors 36, to fly on the wing of Maj Mark Turberville/1Lt Steve Garland, Coors 35. Mark was the 81st SEFE, Stan Eval Flight Examiner. A total of ten 81st aircrews were involved as Coors 31-36 (Mission #1231W) and Blatz 41-44



Emblem of the 23rd Tactical Fighter Squadron. (Via Eric Bosch)

(Mission #1241W). The F-4Gs were each configured with four HARMs and a centerline fuel tank. To reach the targets in the KTO, pre-strike refueling was necessary. Yet, due to the configuration we could not go very far or stay on station very long. We briefed with the aircrews of Blatz flight, as we had a wide time window to cover across the full KTO. We hoped to provide overlapping coverage in the event anything went wrong. There might also be a possibility a flight might have excess missiles after covering the strike missions we were directly supporting, which would be a transition from a direct support to an area support mission. The mission briefing, which took place while aircraft of the initial F-4G flights were returning, was relatively uneventful, except that the weather was not as good as we had become accustomed to: a strong north wind and cumulus clouds throughout the area.

As Victor continued,

After arriving at the Squadron duty desk for our aircraft assignments, things started to go downhill. Only two of the six Coors aircraft were ready, Coors 35 and 36. Ultimately, eight F-4Gs got airborne with 26 HARMs expended, of which all eight by the crews of Coors 35 and 36, seven out of eight by the crews of Coors 33 and 34, for a total of 15 out of 16 HARMs. Blatz 41-44 all got airborne and their crews expended 11 out of 16 AGM-88s. Coors flight was scheduled on different tankers, but all were supposed to enter the KTO at about the same time with Coors 31-34 (Coors 31 and 32 did not get airborne) supporting F-16As of the 157th TFS (South Carolina ANG) in the north and west, and Coors 35-36 supporting F-16Cs of the 614th TFS in the southeast, striking Ali Al Salem and Al Jaber airfields. Since we would be the only ones going into the target area, focus would be covering the full area to the best of our ability, con-

centrating on direct support for the attack missions. Our target priorities based on SAM type was SA-3, SA-2, SA-6 for us and SA-2, SA-6 and SA-3 for Coors 35.

After takeoff, we joined on our tanker, Walleye 62, and took a full load of fuel. As we turned to the north, I got sight of the 614th F-16Cs, which were about ten miles in front of us, while it should have been the other way around. On radar we could see the F-16As of the 157th, which were even further ahead. Our flight plan called for us to take on more fuel as we flew north to the drop-off point, but, as we were further south than planned, we decided to depart the tanker and push it up to go as fast as possible to the target area. When we climbed away, the Swamp Foxes of the 157th asked about the status of the Weasels. I told them we were only a flight of two and several miles behind them. The impact of only two Weasels airborne early on was that the 157th pilots did a lot of defensive maneuvers. They were not happy and rightfully so. When I recommended them to make a 360 turn so that we could close the gap, they answered negative and continued on to their targets, most likely due to fuel. After the 157th pilots stirred up the SAMs, Don and I had several SAMs displayed on our nose, with good ranging on our APR-47s. After selecting the closest SA-6 to the F-16As, we fired a HARM, a long-range shot, about 40 miles with a 2½-minute missile time of flight. This was immediately followed by a second HARM, at 35 miles and two-minute time respectively. While in the firing process, we lost sight of our element lead. Continuing veering to the right, we fired our third HARM at an SA-2 to the east, the vicinity of the F-16C target area. Expending the three missiles took place within one minute. We then rolled out on a northerly heading while trying to find Mark and Steve, and the 614th F-16Cs. A few seconds later, we had a popup launching SA-2 in their area, at about ten miles and 20 degrees to the right of our nose. I turned to put the missile on the nose to reduce its time of flight and Don did the handoff. As soon as we rolled out, we took the shot and the HARM went like a spear directly towards the SAM location.

Coors 36 was out of HARMs, but still had plenty of gas remaining to make it back to Shaikh Isa, even without the scheduled post-strike refueling. Coors 35's crew was not seen until after arrival. A quick intel and maintenance brief were made, followed by a review of the tapes. As for analysis Victor stated,

Had we been on time and ahead of the attack force, we would not have been in a position to make as rapid a shot as we made. If we were past the target area, rather than pointing at it, it would have been a longer turn to point to the target, which result in a longer missile time of flight. On future missions, we made it a point to keep nose on to the target area whenever possible. To fly a four-HARM, single tank F-4G into combat with a target-rich environment proved to be the only one and highlight of my career.

Victor flew 18 combat sorties for 65 hours.

According to the Gulf War Air Power Survey (GWAPS), the first night of DESERT STORM was 'an elaborately cho-

reographed combination of stealth aircraft, specialized electronic warfare aircraft, decoys, cruise missiles, and attack aircraft, delivering a sudden, paralyzing blow to the integrated air defense system from which the Iraqis never recovered'.

By 17/0800Z (17/1100L), CENTAF reported that 30 air-to-ground, eight air-to-air, and two reconnaissance packages were flown against a variety of strategic targets, which included air defense, telecommunications and command facilities, and airfields. The Coalition supplied 669 aircraft, of which 530 were U.S. aircraft. One Navy F/A-18C Hornet was reportedly lost to a MiG-25, resulting in the pilot's death, plus an A-6E with both crewmembers taken POW and later released. The RAF lost an Tornado GR.Mk 1, with both crewmembers also taken POW and later released. Pilots of F-15Cs claimed six and of Navy F/A-18Cs two Iraqi fighters.

Throughout the first day, Air Force and Navy SEAD packages went after Iraqi air defenses, both control centers and SAM sites. For instance, 40 F-16Cs, supported by four BQM-74 drones, eight F-4Gs, four EF-111As, plus 16 CAP F-15Cs, struck the Tallil IOC/SOC (Integrated/Sector Operations Center). The F-4G aircrews expended all 16 HARMs. Also, F/A-18s, supported by EA-6Bs, attacked the Al Amarah IOC. Later in the day, 32 F-16s struck Al Taqaddum Airfield, which was one of the largest and best-equipped in Iraq, and the Habbaniya Petroleum Storage Facility. They were supported by eight F-4Gs, four EF-111As and 16 CAP F-15Cs. Two Eagle pilots shot down two MiG-29s.

At 2100L, high flying B-52Gs, supported by four F-4Gs, two EF-111As, and four CAP F-15Cs, flew the first bombing mission against the Republican Guard's Tawalkalna Mechanized Division.

Combat sorties on Day One were not only flown by Air Force pilots, but also by their ANG colleagues. CENTAF Rear on December 3, 1990 released information on the first call-up of ANG (F-16A) and AFRes (A-10A) fighter and support units. Included were two ANG fighter units, the 138th TFS/174th TFW (New York, flying F/A-16As) and the



Sixteen of the 72 Package Q F-16Cs on January 19 were flown by pilots of the 614th TFS, Doha (Qatar). Two aircraft were lost with their pilots taken prisoner, but later released. The photo shows F-16C 86-0288 of the 614th being configured with Mk-20 Rockeye anti-armor bombs. (USAF)



The crew of 561st TFS F-4G 69-0265 is about to strap in for the redeployment flight to George. The first 12 aircraft departed Shaikh Isa on March 22. The Weasel's configuration included an AN/ALQ-184 ECM and luggage pods. (USAF, Sgt Jeff Wright)

157th TFS/169th TFG (SC, with F-16As). The 4th TFW held a planning conference at Seymour Johnson on the 6th with both units on their upcoming deployment to Al Kharj. Eight days later, the National Guard Bureau (NGB) instructed the two units not to repaint their aircraft in desert colors, but to leave them in their ghost grey mode. A call-up message was issued by CENTAF Rear for the 169th (December 25) and 174th (December 29). On the 23rd, CENTAF Rear issued ATO 91-27 for the deployment of three 174th TFW F-16 cells, each containing six aircraft plus two air spares and to deploy with three external tanks, one travel pod, one ECM pod, full chaff and flare dispensers if available, two AIM-9s, and guns loaded and armed. Departure from Syracuse was scheduled at 02/1900Z Jan 91. Arrival was on the 3rd. Twenty-two F-16As of the 169th TFG arrived at Al Kharj on December 30. The other two aircraft were broken down at Cairo West. A team was sent to repair them and the aircraft arrived on January 3. The ANG F-16As were part of a force of 248 USAF F-16A/Cs, more than any other U.S. fighter aircraft. On the 7th, the ANG contingent included 100 officers and 804 enlisted personnel. One day later, CENTAF Rear tasked the 187th TFG at Donnelly Field (Alabama ANG) to be prepared to provide ten Block 10 F-16As and aircrews as replacement fillers for both deployed ANG units, while the 152nd Tactical Reconnaissance Group (TRG, Nevada ANG) was to be prepared to provide two additional RF-4Cs. On December 9, TFWP 4 reported that of the ALQ-119 pods possessed by the 138th and 157th TFS, 13 were NMC, Not Mission Capable. The Wing also stated that under the then current conditions, F-16s would not be launched without operational ECM pods. On January 13, the 138th TFS lost an F-16, when its pilot experienced an engine failure. The aircraft crashed in central Saudi Arabia after the pilot had ejected safely.

The ANG Fighting Falcons lacked the equipment needed for night and weather operations. For this reason their pilots staged a variety of daylight attacks on targets

in Kuwait and southern Iraq, including SA-3 missile sites, bridges, airfield and the Republican Guard. During their missions no F-4G Wild Weasel or ECM support were generally not directly attached to ANG F-16A packages, but would be in the area of their targets.

On the first day of Desert Storm, the two ANG F-16A units flew 68 sorties with 113.6 flying hours, 32/47.6 and 36/66.0 for the 138th (18 F/A-16A) and 157th TFS (24 F-16A) respectively. The first mission flown by pilots of the 157th TFS involved SEAD in support of a strike package that was tasked to strike Kuwaiti Ahmed Al Jaber and Ali Salem Airfields. During the 10-15 minutes in the target area, pilots struck ten Iraqi SAM sites in marginal weather conditions. The Squadron's second mission was planned late in the afternoon and involved re-striking Ahmed Al Jaber Airfield. However, near the end of the pre-briefing the pilots were informed their target had been switched to strike several SA-2 sites near the Airfield. In addition, takeoff time was delayed by two hours while the pilots were strapping in. Sixteen F-16As each of the 157th and 138th TFS took off, with the 138th taking off first. Each F-16 was configured with two Mk 84s, meaning standard 20-second single-ship takeoffs. On this mission the strike package included four F-4Gs and two EF-111As. The F-4Gs had arrived over the target area before the arrival of the F-16s. Pilots of the Weasels informed their F-16A colleagues that the lower cloud deck had lots of holes over the target area. One of the 157th TFS pilots was Capt Wayne Phillips. His flight lead was Maj John Bellinger. Capt Phillips,

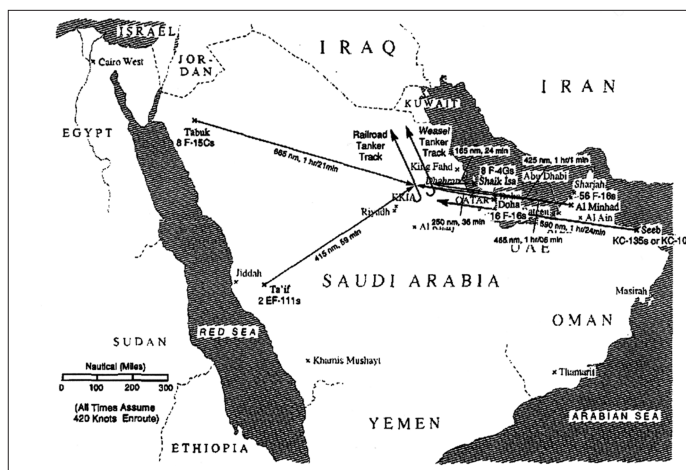
Because of clouds and the twilight, we soon lost sight of the other two flight members. Because our target was obscured by clouds, it was decided that Bellinger would do his best CCRP (Continuously Computed Release Point) delivery and I would release manually when I saw his bombs would come off. But due to the weather I could not see his bombs and with 15 other pilots on the radio, I did not hear his 'pickle' call either. When I heard him say 'off left', I pickled and felt the bombs leaving my wings.

Although the main concern of Phillips was to avoid colliding with another F-16, all 32 pilots made it back safely to Al Kharj, although nobody had landed there before after dark. Pilots of the 138th and 157th TFS flew 3,645 combat sorties, dropping 3,500 tons of ordnance without losing a single aircraft to Iraqi fire.

According to GWAPS, 79 F-4G sorties were flown from Shaikh Isa on D-Day, the most in DESERT STORM, with aircrews expending 123 AGM-88s. The 79 sorties resulted in 118 strikes, including 15 OCA (Offensive Counter-Air, against radar installations and radars collocated with SAM sites) and 103 SAM (like SAM sites/complexes) strikes.

Day Three, Package Q

To exploit the principle of mass and economy of force, large force employment packages, typical of DESERT



Package Q Air Elements, Day Three, January 19. (GWAPS)

STORM, consisted of up to 90 aircraft. They were preceded by a dedicated SEAD package of F-4Gs and EF-111As, plus dedicated CAP for protection from Iraqi fighters. However, a great deal of coordination was required, increasing dramatically with the size of the package.

The MAP for Day Three, January 19, called for three packages to strike targets against Baghdad, Package F, G and Q. 'F' (TOT, Time Over Target, 0700L) was composed of 70 aircraft, including four F-4Gs, while 'G' (TOT 0715L) numbered 60 aircraft, including eight F-4Gs. None of these sorties were flown due to weather, tanker, or scheduling problems, or a combination of these factors. In the meantime, however, in the KTO (Kuwait Theater of Operations), Package E of four F-4Gs and two CAP F-15Cs, supporting four B-52Gs struck the Madinah Division with an 0600L TOT, while two hours later, four F-4Gs supported a Marine Corps package with two EA-6Bs, four F/A-18s with HARMs, 12 strike F/A-18s and four CAP Hornets to strike the Madinah and Hammurabi Divisions. F-4Gs supported several other Packages with B-52Gs, like 'T', with eleven Stratofortresses and two EF-111As, striking Tikrit targets. The third package, 'Q', with an 1630L TOT, was the biggest package in DESERT STORM. As the ATO for this day was not in the GWAPS files, the movement up to the Iraqi border was described in general terms, such as probable take-off times and tanker rendezvous times on the basis of known distances and flying times. Participating aircraft were eight F-4Gs, two EF-111As, 72 (56 and 16) F-16Cs, and 12 F-15Cs, which meant that aircraft from five different bases had to proceed to the tanker tracks. Pilots of F-15Cs at Tabuk needed 2+ hours (620 NM, taking off at 1307L), those of the EF-111As at Taif 1.6 hours (485 NM, taking off at 1330L) and F-4G crews, only 30 minutes (105 NM, taking off at 1437L). Like a finely tuned watch, mission commanders adjusted their speeds so that their aircraft arrived at the tanker tracks on the mark.

Aircraft supporting the Package were KC-135 tankers (tracks used were Railroad and Weasel, each with up to eight tankers), E-3 AWACS, EC-130E ABCCC (Airborne Battlefield Command and Control Center), EC-130H COMPASS CALL, and RC-135V/W RIVET JOINT aircraft.

Depending on their tanker track, F-4G aircrews at Shaikh Isa in general had flights of 250-300 nautical miles (NM) before reaching Iraqi air space. In reality, they often faced longer distances, as missions formed up on tanker tracks and then crossed the border as integrated packages. To execute their missions, allied aircraft required extensive mid-air refueling and by January 1991, CENTAF had established a series of refueling tracks, which stretched from the Persian Gulf all the way across northern Saudi Arabia to the Red Sea. Each track was aligned north-south with anchors separated by 50 NM. Refueling altitudes were between FL 180-280. Most of the tracks had 2-5 tankers, which operated at different altitudes within their track. It required careful coordination as often tankers came from different airfields.

Due to distance and fuel consumption, Package Q F-4Gs were configured with only two HARMs. Yet, not much time could be spent in the target area and it also limited flexible maneuvering. Tanker drop off was at 1547L, some 175 NM and 40 minutes after reaching the tanker rendezvous point. It took another 50 NM and eight minutes before reaching the Saudi-Iraqi border. After crossing it, Baghdad was reached after some 265 NM at around 1630L. From the moment 'Q' approached Baghdad's air defenses, Weasel crews engaged SAM sites. The first F-16Cs to strike were the 56 of TFWP 388 (Al Minhad, UAE), hitting the nuclear research facility near Baghdad. A TFWP 401 (Doha, Qatar) report stated, among others, 'unfortunately, for the following F-16s, the F-4G SEAD package had fired all its HARMs and left the area, as did the covering F-15s'. However, according to MG Buster Glosson, in an April 1992 interview with GWAPS personnel, there was a problem with the Weasels allocated to the mission. Either because of fuel, timing, or the decision of the package commander, not all appeared to have made it to the Baghdad area. Moreover, some of the aircrews did not fire all their HARMs, which suggested they had to leave because of fuel problems. The GWAPS Database showed that only six HARMs were expended. Maj John Nichols of the 614th TFS stated in his July 1992 interview that up to the Weasel call they were leaving, SAMs had been fired by the Iraqis the ballistic way. Following this, many SAMs were guided, forcing his flight members to take evasive action and jettison ordnance and fuel tanks. Two F-16Cs of the 614th were hit by SAMs and crashed. Their pilots, Maj Jeffrey Tice and Capt Harry Roberts, ejected successfully, taken POW, and released on March 6, 1991. A number of lessons were learned from Package Q: Baghdad's defenses remained lethal and, consequently, it was not worth the risk to send conventional packages to strike targets there. Therefore, Package Q was not repeated, with F-16 packages becoming smaller, more manageable and easier to coordinate and fly.

Day Four

On D+4, January 20, F-4G aircrews flew a combined 61 combat sorties, totaling 69 strikes, 22 OCA and 47 against SAMs. B-52Gs flew 27 combat sorties, all air in-



After the Turkish Parliament gave its blessing, the U.S. was authorized to increase its forces at Incirlik. One of the units involved was the 23rd TFS, which, on January 17, 1991, deployed from Spangdahlem with initially seven F-4Gs and 12 F-16Cs. The photo shows an F-4G and F-16C of the 23rd on a wet 'last chance' before takeoff to the Turkish base. (USAF, TSgt Fernando Serna)

terdiction. As usual, the Stratofortresses were supported by F-4Gs. Four of those 61 sorties were flown by Michelob 61-64 flight, led by Col Gelwix and Uke, who made his most satisfying HARM shot ever. As he described,

It was a night sortie and we were supporting a three-ship B-52Gs with the call sign Boston 30-32. Their mission was striking the Headquarters of the Medinah Republican Guard Division, which was located just outside the north-west border of Kuwait. We had talked with Boston 30 on the STU III, so we knew their TOT and the attack axis was 150 with an egress to the south. We had already stepped and were checking the flight in at engine start time, when we received a call from Squadron Ops, informing us our tanker for the night had aborted and that according to Riyadh there were no spares. Knowing the BUFFs had already taken off and were already flying over the barrens of western Iraq, we were betting they were unaware of our dilemma. As we would already be going to be well beyond the planned Joker/Bingo fuel with no chance of a post-attack refueling, it would mean landing short at one of the Coalition bases just south of the Kuwait border. While still on the ground, we decided on breaking the flight into four singles with 20-mile in-trail spacing to extend our collective on-station time, allowing us to cover the B-52G's vulnerability period. Once airborne, it all went pretty much as planned. As we approached the target, we were able to find Boston 30 on the radar, still being 15 miles from the threat ring. Less than a minute later, an SA-6 target tracking radar was up and we started working it. As the bombers were still outside the target threat and betting the SA-6 was focused on the B-52s, we delayed the HARM shot for a few seconds. We fired, made the perfunctory Magnum call and verified the time to impact cue looked good. Just as the SA-6 guidance radar came up, we got an excited call from Boston 30's EWO, informing us he thought they were going to shoot. I was able to tell him OK, HARM time to impact is x seconds as they were launched on. He did not need to tell me, we were also seeing it, as the fly-out cue soon went :00

and four seconds later, the SA-6 'went dotted'. Boston 30 was one happy aircraft commander, who promised us a case of Scotch...still waiting. We then 'zoomed for the moon' for fuel, did our best imitation of a space shuttle descent and were able to make it back to Shaikh Isa, logging a single bag 1.9.

The 61 sorties flown from Shaikh Isa and Incirlik increased the combined total for the first four days to 286, 76 OCA and 243 strikes against SAMs (319).

Decrease

F-4G aircrews also participated in the Scud campaign. After rescheduling two packages of F-111Fs from air defense and SRBM (Short-Range Ballistic Missiles) targets in Kuwait and Tallil, 26 F-111Fs were sent on 21/0530L to Scud sites near H-2 and H-3. They were supported by eight F-4Gs, six EF-111As and 16 CAP F-15Cs. At 23/2015L January, four F-4Gs, two EF-111As and eight CAP F-15Cs supported 20 Taif F-111Fs which struck suspected Scud sites and shelters at Qalat Salih Airfield. The next morning, at 0400L, a similar package hit the H-2 airfield shelters.

On January 28, F-4Gs and A-10A Warthogs struck an SA-3 site northwest of Ali Al Salem AB, signaling "the birth of the 'Wart Weasel'." A package of three B-52Gs and four Saudi Tornado IDS aircraft were supported on a February 2 strike against the Republican Guard by F-4Gs of Coors flight. One of the F-4Gs were flown by a 90th TFS crew, Capt Vince Farrell and EWO, Capt Ed Fisher. He picked up several radar signals on his electronic gear, but not enough information to expend an AGM-88.

On February 4, CENTAF reported that the size of the average strike package was beginning to decrease. However, as the number of sorties remained essentially constant, this meant that the actual number of packages flown increased. Sixty-three packages were flown, including three by JTF-PF, Joint Task Force Proven Force. Thirty-nine CENTAF packages were flown against Republican Guard-related targets. In general, JTF-PF continued to fly three packages daily.

By Day 28 of the Air Campaign, February 13, it had become obvious the Coalition had established almost complete dominance in the skies over Iraq. This meant, for instance, that SEAD sorties no longer directly supported most KTO strike packages: F-4Gs flew orbits to seek out and strike SAM sites that came up. However, F-4Gs and EF-111As still accompanied packages, striking deeper in Iraq. That day, 14 large force packages were flown. For instance, a massive package of 12 B-52Gs were supported by eight F-4Gs, three EF-111As and four CAP F-15Cs. Struck was the Taji Missile Repair Facility. Fifty-seven combined F-4G sorties were flown.

In an 21/0300Z February Sitrep, ARCENT (U.S. Army Forces, Central Command) stated its aviation battalions continued their attacks on Iraqi forces. Elements of the 24th Attack Helicopter Battalion struck an early warning radar site near As Saman AB, 62 NM inside Iraq and in the 45th Infantry Division rear area, destroying a van, two



'McDonalds' at the Lik. It was next to the 23rd TFS Ops shelter for crews to have meals. L-R, Cpts Cal Tinkey, Keith Snyder, Dave Lujan, Billy Harvey, Eric Larson, and 1/Lts Sid Mayeux, and Mark Devane. (Karl Dittmer)

AA guns and several vehicles. On their way in, the AH-64A Apache helicopters were supported by F-4Gs, EF-111As and EC-130Hs, providing SEAD.

Liberated

CINCCENT reported on D+38, February 24, the beginning of the Offensive Ground Campaign, that Coalition aircraft flew the highest number of sorties to date (3,062, of which 1,648 by CENTAF. Its overall aircraft mission-capable rate was 94.3) with the majority in direct support of allied ground forces. RAF Tornado GR.Mk 1s and Buccaneer S.Mk 2Bs, escorted by F-4Gs, struck Hardened Aircraft Shelters (HAS) at Tallil and Jalibah Airfields. That number was surpassed two days later when 3,200 sorties were scheduled in 52 packages (JTF-PF flew 116 sorties). On February 27, Coalition forces flew 2,940 sorties (1,651 by CENTAF with an 93.1 percent overall mission-capable rate) and JTF-PF, 119 against the Tajo steel fabrication plant.

Also on the 27th, President Bush declared Kuwait as liberated and Iraq as defeated and ordered suspension of offensive air operations at 28/0500Z February. To celebrate, Col Karp hosted a TFWP 35 end-of-war party at the 'Weasel Dome', which was opened for business on Decem-



The 23rd TFS 'gang' at Incirlik. (Karl Dittmer)

ber 15 and was located just off-base. It included a bar, a Pizza Hut, a Baskin-Robbins and a stage area. In his assessment, Col Karp stated, for instance, that overall he was absolutely thrilled with the results: the aircrews performed brilliantly, the support forces did a tremendous job and the aircraft did extremely well.

In a 01/2115Z March message, CINCCENT informed the JCS that in 43 days of the air war, Coalition forces flew over 110,000 sorties.

The redeployment of US forces was called DESERT FAREWELL, popularly called DESERT CALM. Yet, defensive CAPs, reconnaissance, AWACS and Scud response sorties continued to be flown.

AGM-88

In a 06/0800Z October message, CENTAF Fwd requested CINCCENT, in addition to previously stated logistics priorities, to move, among others, all available AGM-88 HARMs. CENTAF Fwd, in a 13/0800Z November Sitrep to CINCCENT, placed munitions back on his logistics priority list by requesting immediate shipment of 1,000 AGM-88s.

Due to the relatively short distance from Shaikh Isa, F-4Gs of the 81st TFS were configured with four HARMs and a centerline fuel tank during two-thirds of the missions flown in the KTO. Weasels, scheduled for missions into the Baghdad area carried two -88s and three fuel tanks.

The AGM-88 proved to be the chief lethal component of effort to suppress enemy air defenses. It homed in on radar emissions and destroyed the emitter. Of the 1,961 HARMs expended by U.S. aircraft, F-4G and F-16C aircrews fired some 1,067. Aircrews of TFWP 35 fired 905 (13 were jettisoned), with 254 radars recorded as destroyed, for a 28 percent success rate. Navy and Marine Corps aircrews fired 894 HARMs. During the first week, some 1,000 HARMs were expended. Also, seven AGM-45A/B, eight AGM-65D and four AIM-7 missiles were fired. One of the eight Mavericks was expended from Jim Uken's F-4G against a Thin Skin height finding radar. He stated,

There was a big difference between firing an AGM-65 and a HARM, as the Maverick requires much closer in, lower altitude employment. Due to the requirement to place the target in the missile's narrow Field of View (FOV), located on your radar scope and which can be converted to a TV picture, is a rectangular depiction of the FOV. Once the target is placed within the FOV, you can track the threat, physically identify and lock onto the target, in this case the Maverick's infrared picture, and then make sure the missile 'sees' and is locked onto the target before firing. I estimate our shot was probably 2-2.5 miles out. On this mission we also carried a Shrike, but it was not frequency-capable against the Thin Skin radar.

Both -45s and -88s home in on the radar energy being emitted, but the big difference and advantage of the HARM is it memorized its position and killed the radar, even when it would be shut down quickly. On January 1, 1991, there were 2,579 HARMs on hand, with a requirement for 2,500.

USAF Air Order of Battle/Shaiikh Isa

Type	1 Sep	1 Oct	31 Dec	1 Feb+
F-4G	24#	36*	48**	49**
RF-4C	0	0	5++	18++
Total	24	36	53	67

all 561st TFS

* 12 F-4Gs of the 81st TFS/52nd TFW arrived on September 5.

** 12 F-4Gs of the 52nd TFW arrived on December 26. A 13th aircraft arrived on January 1, 1991 from Moron.

+ Shaikh Isa also hosted 125 Marine Corps aircraft: 12 EA-6Bs, 20 A-6Es, 78 F/A-18A/C/Ds, and 15 KC-130s.

++ The 152nd TRG was activated on December 3, scheduled to deploy to Al Dhafra, Saudi Arabia and then redeploy to Shaikh Isa. Initially to Al Dhafra, to enable the 117th Tactical Reconnaissance Wing (TRW, Alabama ANG) there to acquaintance their Nevada colleagues with the mission and desert flying ops and to transfer three of its aircraft. The first 152nd TRG C-141 departed on December 6. One day later, CENTAF Rear tasked 152nd to deploy three RF-4Cs to Shaikh Isa, beginning on December 10 via Seymour and Moron (Spain). The first 192nd TRS/152nd TRG personnel arrived December 7-9. On the 11th, a change to ATO 91-12 stated one of the three RF-4Cs to be deployed was to be from the 117th TRW. The three aircrews would meet at Seymour by December 14 and then deploy to Shaikh Isa. Change 2 to ATO 91-12 of the 12th changed the destination to Al Dhafra. The three aircraft arrived at Moron on December 16. Two aircraft arrived on the 19th from Moron, while the third one, an 152nd TRG aircraft, which required an engine change at Moron, arrived on January 1 at Shaikh Isa, in company of an F-4G. As the 152nd TRG aircraft apparently were not equipped with AIM-9 modifications, the unit was tasked to send mod kits so that the aircraft could be retrofitted. The five 152nd TRG RF-4Cs had relocated to Shaikh Isa by December 25, as on that date, the unit flew its first four of six scheduled recce sorties.

On November 18, 1990 CENTAF (Rear) notified TAC's 67th TRW at Bergstrom (TX) the 12th TRS was tasked to deploy aircrews, supporting personnel and 12 RF-4Cs to Shaikh Isa. Eleven C-141s, 358 personnel and the 12 RF-4Cs were deployed January 5-14, 1991. This meant all CENTAF F-4s were stationed at one location, Shaikh Isa. Radar-guided shots were fired at 12th TRS aircrews in only one encounter. Their final two recce Phantoms arrived at Bergstrom on May 18.

Aircraft Activity, Shaikh Isa, according to TFWP 35

Unit	Desert Shield Sorties/Flying hours	Desert Storm Sorties°/Flying hours°°	Total
561TFS*	1,793/3,435	1,182/4,393**	2,975/7,828**+
81TFS+	1,006/2,007	1,149/4,194++	2,155/6,201+*
Total	2,799/5,442	2,331/8,587	5,130/14,029
12/192TRS	157/320	741/1,731	898/2,051+++
Grand Total	2,956/5,762	3,072/10,318	6,028/16,080

° 3,000th on February 27; °° 10,000th on the 26th.

* Twenty-six different F-4Gs were employed, including two that arrived on January 20 as attrition aircraft, 97254 and 97256. Averaged 28.1 sorties/104.6 flying hours per day.

** 3.7 sortie duration average.

**+ also flew 138 sorties/380 flying hours during March in DESERT CALM.

+ Twenty-five different F-4Gs were employed, including 97254 which was transferred from the 561st after the loss of 97571 on January 18. Averaged 27.3 sorties/99.8 flying hours per day.

++ 3.6 sortie duration average.

+* also flew 166 sorties/252 flying hours during March in DESERT CALM.

+++ also flew 221 sorties/425 flying hours during March in DESERT CALM.

Air-to-Ground Expenditures

Service	Type	AGM-45	AGM-88	Total	%
USAF	53		1,067	1,120	55
USMC	7		233	240	12
USN	18		661	679	33
Total	78		1,961	2,039	100

One month later, the numbers were 1,786 and 2,500 respectively. To replenish the HARM's inventory, the Texas Instruments FY91 production contract was increased from 1,400 to 3,841. Only five Coalition aircraft were lost to Iraqi radar-guided SAMs, four of those not having F-4G support. During the latter stages, with the remaining radars rarely emitting, F-4G aircrews used AGM-65Ds against non-emitting radar targets.

The Wing's highest one-day sortie total was flown on February 3 with 86 sorties by all four squadrons.

The highest one-day flying hour mark, 308.3, occurred on the 10th. On the 21st, both F-4G squadrons flew their 1,000th combat sortie, respectively by Lt Col Rodney Miller and Capt James Carnahan (561st) and Capt Gary Gray and Maj Victor Lin (81st). The 4,000 combat hour point was passed by the 561st on February 23 and by the 81st on the 25th. Three-hundred-and-forty-thousand feet of film, 'shot' by RF-4C crews, were processed, more than 65 miles, with 19,000 photos developed.

The GWAPS Composite Sorties Database for January 16-February 28, 1991 showed F-4Gs flew a combined 2,683 sorties from Shaikh Isa and Incirlik, 2,676 OCA, five training and two other. The average daily number for the period was 63.3 sorties.

At the peak of DESERT STORM, 308 KC-10A and KC-135A/E/Q/R tankers were either deployed in the AOR (222) or supporting from outside the AOR (86). They accomplished 60,184 DESERT SHIELD/STORM refueling events/sorties, of which 3,331 to TAC F-4G aircraft, while USAFE F-4Gs were involved in 1,730 in-flight refueling events/sorties.

Only one F-4G (81st TFS) was lost in combat, on 19/0255Z January on a night Wild Weasel mission. The aircraft, 97571, ran out of fuel after it was hit by AAA. The crew, Capts Tim Burke and Juan Galindez (EWO) ejected safely and were back to business two days later. With 2,676 combat sorties flown, the loss rate per 1,000 sorties was 0.4.

JTF Proven Force

On August 2, 1990, EUCOM (European Command) had fourteen RAF Upper Heyford (UK) F-111Es on WTD (Weapons Training Detachment) and four Torrejon (Spain) F-16Cs on a NATO (SIOP, Single Integrated Operational Plan) commitment at Incirlik, Turkey. However, it was not known if the Turkish government would allow strikes against Iraq.

While CENTCOM planners were wrestling with the details of the deployment and defense of Saudi Arabia, Pentagon air planners were requested to begin planning for offensive operations. In the meantime, a small cadre of 52nd TFW pilots at Spangdahlem were conceptualizing opening a second front in northern Iraq by conducting Electric Warfare from Incirlik. This would force Iraq to divert air defense resources from the south, thus helping CENTCOM's air component in case of a war against Iraq. However, while passing through Wing, 65AD, USAFE and EUCOM channels, the concept grew into a full-scale operation, which ultimately reached CJCS, Gen Colin Powell. He supported the concept, which was continually being reviewed and refined.

As a result, USCINCEUR, on December 23, issued an OPOD (Operations Order), establishing Joint Task Force Proven Force (JTF-PF). Four days later, MG James Jamerson, USAFE's Deputy Chief of Staff of Operations (DCO), was appointed as its commander. It was formally activated at Ramstein (Germany) effective 7/0800Z January 1991. Concurrently, the Turkish General Staff approved the deployment of a small ADVON to Incirlik.

Incirlik, nicknamed 'the Lik', on January 1, 1991 hosted 48 USAFE aircraft, ten F-15Cs (had arrived on December 16 for a WTD), 24 F-16Cs (on September 18, Torrejon deployed 20 additional F-16Cs and maintenance personnel for NATO exercise DISPLAY DETERMINATION 90), and the 14 WTD F-111Es, which had not redeployed. Also, SAC had deployed four KC-135As.

On the 13th, the Turkish government approved the construction of 30 12-person tents to house projected JTF



Block 30 F-16C 86-0232 of the 23rd TFS leads a gaggle of F-4Gs and F-16Cs, all configured with AGM-88s, for takeoff in a daylight combat mission from Incirlik. The aircraft that just took off must have been a KC-135A tanker. (Karl Dittmer)

personnel at Incirlik and Batman. Two days later, the U.S. Ambassador in Turkey was formally informed by the Turkish Foreign Ministry that the 'temporary' deployment of 48 additional aircraft was approved, which would bring the total of combat aircraft at Incirlik to 96. To house all incoming personnel, a PRIME BEEF Civil Engineering team constructed a tent city, dubbed 'Tornado Town'.

On January 16, USAFE activated Composite Wing Provisional, 7440 (CWP 7440) at Incirlik as the JTF-PF's air component, with BG Lee Downer as commander. It was attached to USAFE. The Wing assumed control there of the 39th Tactical Group. Also, the first JTF ELUSIVE CONCEPT Special Operations Forces and the first echelon of JTF's Headquarters arrived, deployment of the augmentation package was initiated with the arrival of four F-111Es from Sigonella (Sicily), the first two C-5 Galaxy aircraft arrived in support of PROVEN FORCE, and the Turkish Parliament approved the deployment of the 48 additional aircraft. Within hours, 30 arrived and by next morning, all 48 were in place. As of January 18, the JTF had 120 aircraft on station, including 12 SAC KC-135As, 12 SOF aircraft and two TAC E-3B AWACS aircraft, with 104 being mission capable by 1200Z. Units and aircraft were attached to CWP 7440. In an 02/0703 February Sitrep, CINCEUR stated SECDEF had directed the deployment of six RF-4Cs, CREEK STORM, which arrived on the 3rd. Support personnel and equipment for the requested Pennsylvania ANG EC-130E VOLANT SOLO propaganda broadcast aircraft arrived on February 25. The Hercules arrived the next day with its first sortie scheduled for the 28th.

(Re)deployment of the 23rd TFS

While DESERT SHIELD was in full swing, USAFE efforts were initiated to develop a concept to further the war effort, if one was to start. This would ultimately be Operation PROVEN FORCE. 52nd TFW personnel for this operation were identified early in the fall and trained nearly exclusively for this contingency. However, they had to wait

until January 16, 1991 before the Turkish Parliament authorized the use of Incirlik for strikes against Iraq. As a result, the only mixed fighter squadron still in USAF, the 23rd TFS, commanded by Lt Col Dave Moody, launched its initial elements of seven F-4Gs and 12 WW F-16Cs to Incirlik, arriving very late in the evening on January 17. Their ADVON team had arrived earlier with enough time to procure a few cots, some rooms, and most importantly, to lay the ground work for the first strikes. By 18/1200Z, all F-16s and five of the seven F-4Gs were mission capable. Another five F-4Gs arrived later that day, bringing the number to 12, which also meant that the Wing deployed 100 percent of its F-4G PAA, Primary Authorized Aircraft. As not all F-4Gs were MC and maintenance had not enough spare parts to get them ready for the first strikes, they had to cannibalize F-4Gs that were too broken to fly. A second problem was the fact that before all maintenance personnel could be deployed, weather closed Spang for three straight days. Spang personnel was then supported by F-16C personnel of the 612th TFS, which had deployed to Incirlik in September 1990. Some of them had an F-4 maintenance background. The opposite was also the case. For instance, Spang maintenance personnel launched RF-4Cs and when Clark's F-4Es arrived with insufficient maintenance personnel, they were reconfigured to a combat configuration by Spang personnel. After the weather broke, more personnel trickled in. It also enabled the Wing to fly 168 HARMs to Incirlik, just in time to not be forced to upload the aircraft with AGM-45 Shrikes as the AGM-88 inventory had been expended to about zero.

As of January 17, the Squadron was attached to the 7440th, which ended on March 15, 1992. In general, the Squadron participated in packages with three mixed fourships in the afternoon and two at night. The Wild Weasel Air Order of Battle on February 1 was 13 F-4Gs and 12 F-16Cs. The GWAPS Composite Sortie Database showed F-4Gs flew 389 sorties from Incirlik.

Combat Operations

On the first day of DESERT STORM Turkey approved operations against Iraq from its territory, Incirlik (combat) and Batman, which became a Forward Operating Location (FOL) for CSAR MH-53Js. EUCOM maintained operational control over the JTF, but CENTCOM exercised tactical control. While sorties were in CENTAF's daily MAP, JTF-PF built its own strike packages without formal coordination, while issuing its own ATO. At least, as long as JTF stayed north of the 35th parallel.

The Wing's focus was on targets in northern Iraq, flying two daylight packages and one at night against, for example, nuclear, chemical, command and control facilities and airfields. A package was as big as 71 aircraft (January 22, cancelled due to weather), while 147 aircraft participated in the three packages on January 24). Compared to the Coalition air forces in the Gulf Region, the 7440th lacked aircraft capable of designating targets for PGMs, Precision-Guided Munitions, (F-111Fs) and stealth aircraft (F-117As). As to the former, by request of Gen Jamer-



In general one nighttime and two daylight packages were flown from the Lik each day. The photo shows a 23rd TFS pilot standing in front of his Block 30 F-16C, 86-0260, prior to a nighttime combat sortie. The aircraft is configured with CBU-87s and a centerline ECM pod. (Karl Dittmer)

son, four aircrews and F-4Es of the 3rd TFW at Clark, modified to carry the Westinghouse AN/AVQ-26 PAVE TACK pod, arrived on February 21. However, the C-5 Galaxy with the pods ran into maintenance problems en route and arrived after combat operations had ended. As to the latter, no F-117A sorties were flown from Incirlik.

Combat sorties from Incirlik were initiated in the evening of January 17, when F-111Es struck radar targets in northern Iraq. This proved to be the only mission package flown without F-4G and/or EF-111A support. The planners played on that by changing the initial targets to a lower threat area. The first 'real' mission was flown at 18/0410L January, by a package of ten CBU-58 carrying F-111Es, which were supported by four F-4Gs, an EC-130H and eight CAP F-15Cs. Targets were in the Mosul, Tikrit, Kirkuk, Quayyarah and Erbil areas.

On January 20, JTF forces flew three packages, striking targets at Kirkuk and Quayyarah. One F-111A sustained minor battle damage. When Iraqi Mirage F1s tried to interfere, two were shot down by CAP F-15C Eagles of Capt David Prather and 1Lt David Sveden, both of the 525th TFS (Bitburg). In a 25/0703Z January Sitrep, CINCENR stated JTF PROVEN FORCE had noticed reduced Iraqi air defense radar activity on all missions. The first air-to-ground combat credits were accomplished on the 28th by pilots of F-111Es and F-16Cs, when they struck four B-767s at Mosul Airfield and eight SU-20/22 Fitters at Kirkuk.

On February 2, 109 sorties were flown by three packages against targets in northern Iraq. At Tuz Khurmatu, an F-4G crew scored a direct Imaging Infra-Red (IIR) AGM-65D Maverick hit on a parked IL-76 Candid, while F-16C pilots reported direct hits on dispersed fighter aircraft. On the 13th, three packages were launched, involving a total of 125 aircraft, including supporting aircraft. In the first, with a TOT of 0920L, four F-4Gs and four F-16Cs (SEAD), plus two EF-111As and six CAP F-15Cs supported 20 F-16Cs, striking the Kirkuk SOC. In the second, TOT 1545L, a similar number of F-4G/F-16C and EF-111A aircraft, plus eight CAP F-15Cs, supported 12 F-

Wild Weasel sorties according to USAFE Command Management Review

Type	Sched	Flown	Hours	Av MC	Av poss
F-4G	429	414	1,247	69.6*	13
F-16C	580	577	1,760	85.6	13
Total	1,009	991	3,007		

* versus USAFE 78.9 FY91 standard.

156 AGM-88s, 48 AGM-45s and 52 AGM-65D/Gs were expended.

16Cs, which struck targets in Qayyarnh West. The third package struck the Kirkuk SOC again at 2310L with 12 F-111Es, which were supported by three F-4Gs and three F-16C SEAD aircraft, two EF-111As and six CAP F-16Cs. The next day, 87 sorties were flown against targets in northern Iraq. Participating F-4G aircrews engaged Tall King, Flat Face and SA-3 sites at Erbil and Mosul.

In the final two weeks of the Air Campaign, JTF-PF F-16Cs and F-111Es came south, almost reaching Baghdad, for the first time on February 15. Four days later, for instance, F-4Gs supported F-16Cs on a daylight strike. Thirteen strike packages with some 140 F-16Cs and F-111Es, supported by CENTAF SEAD/EW aircraft, attacked the Taji military complex, which surrounded an airfield on the northern outskirts of Baghdad, and included, for example, air and ammunition depots, a steel fabrication plant and aircraft engine repair facilities. In addition, about 70 B-52G sorties struck Taji. The next day, a large package of F-16Cs and newly arrived F-4Es were supported by F-4Gs, EF-111As and CAP F-15Cs when they struck the Al Mawsil military research and production facility and the Al Shahiyat liquid fuel Research and Development facility. Eventually, after the SAM threat decreased, a few WW F-4G and F-16C aircraft were used for missions other than SEAD. For example, F-4Gs started to

employ AGM-65 Mavericks, providing pin-point accuracy on any target selected, while F-16Cs were used to protect HVA (High Value Assets) such as the E-3A/B and RC-135V/W when F-15Cs were tasked for other missions.

Aircraft in 100 attack packages flew 4,936 sorties and 15,313 hours, striking 108 targets and expending 3,500 tons of ordnance. There were no combat losses, although an F-16C was lost due to engine problems. Its pilot, Capt Strom, ejected safely and was recovered. Five Iraqi aircraft were downed by pilots of F-15Cs. The number of USAFE personnel deployed was 2,630.

The 52nd Chronology stated its deployed 36 F-4Gs and 12 F-16Cs flew 2,061 sorties with 7,200 flying hours, 1,000 support personnel were deployed, 142 separate radar sites were destroyed. According to the 52nd TFW background information publication the conclusion was, 'The F-4G/F-16C WILD WEASEL Team worked!'. Also, that SEAD worked and that the single organization structure of the 7440th was certainly a factor why no combat losses were suffered.

Overall, during the combat phase of both deployments, flying hours more than tripled and their average sortie duration doubled. Sorties and flying hours during DESERT STORM were equivalent to four months of peacetime flying. ■

For further JTF-PF information, see *Air Power History*, Winter 2021, Volume 69, Number 4.

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The first 23rd TFS F-4Gs and F-16Cs redeployed to Spangdahlem on March 15, 1991. The crew deplaning is Capt Keith Snyder and Randy Comer (EWO). The intake of their F-4G shows at least 15 silhouettes of killed Iraqi radars. It is supposedly also the aircraft of which the crew, on February 2, expended an IIR (Imaging Infra-Red) AGM-65D against an IL-76 Candid, which was parked at Tuz Khurmatu, for a direct hit. (Karl Dittmer)