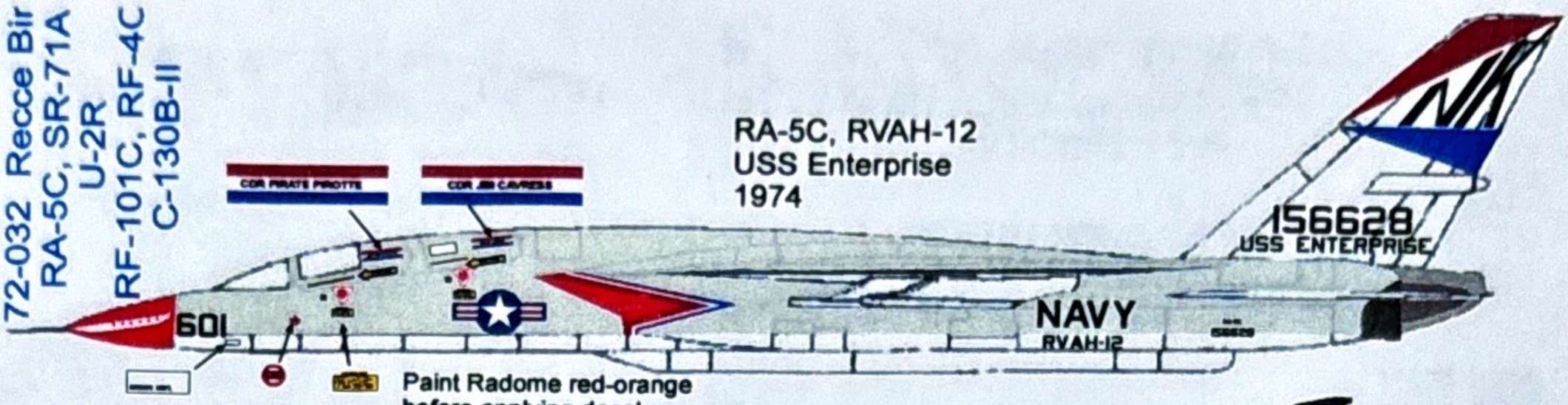
Wolfpak Decals

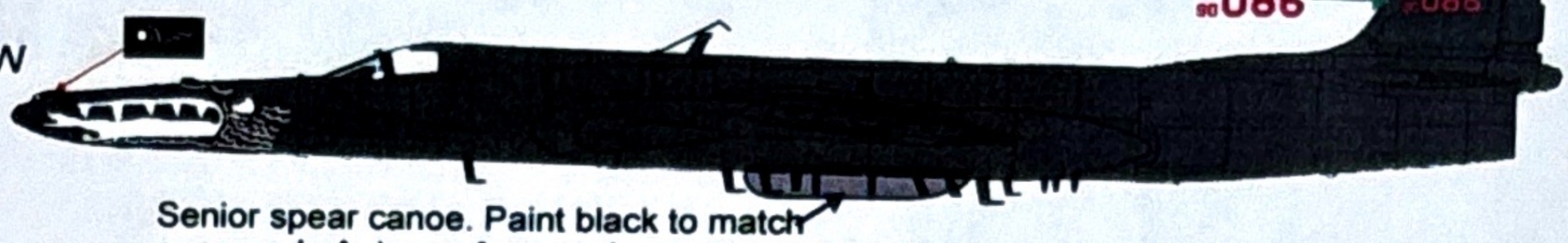
72-032 Recce Birds
RA-5C, SR-71A
U-2R
RF-101C, RF-4C
C-130B-II

RA-5C, RVAH-12
USS Enterprise
1974



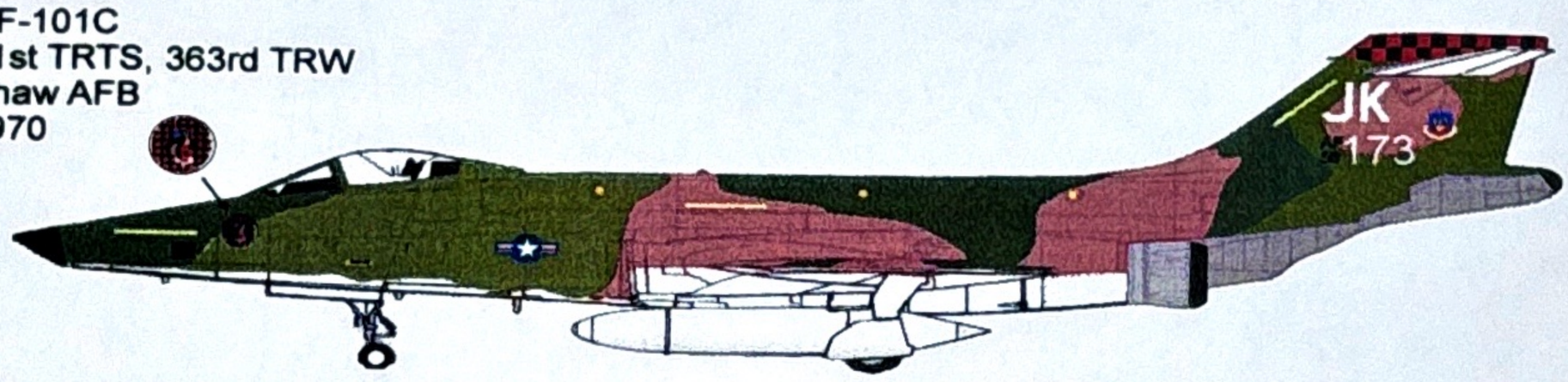

Paint Radome red-orange
before applying decal

U-2R 9th RW




Senior spear canoe. Paint black to match superpod. Antenna farm on fuselage behind pod.

RF-101C
31st TRTS, 363rd TRW
Shaw AFB
1970

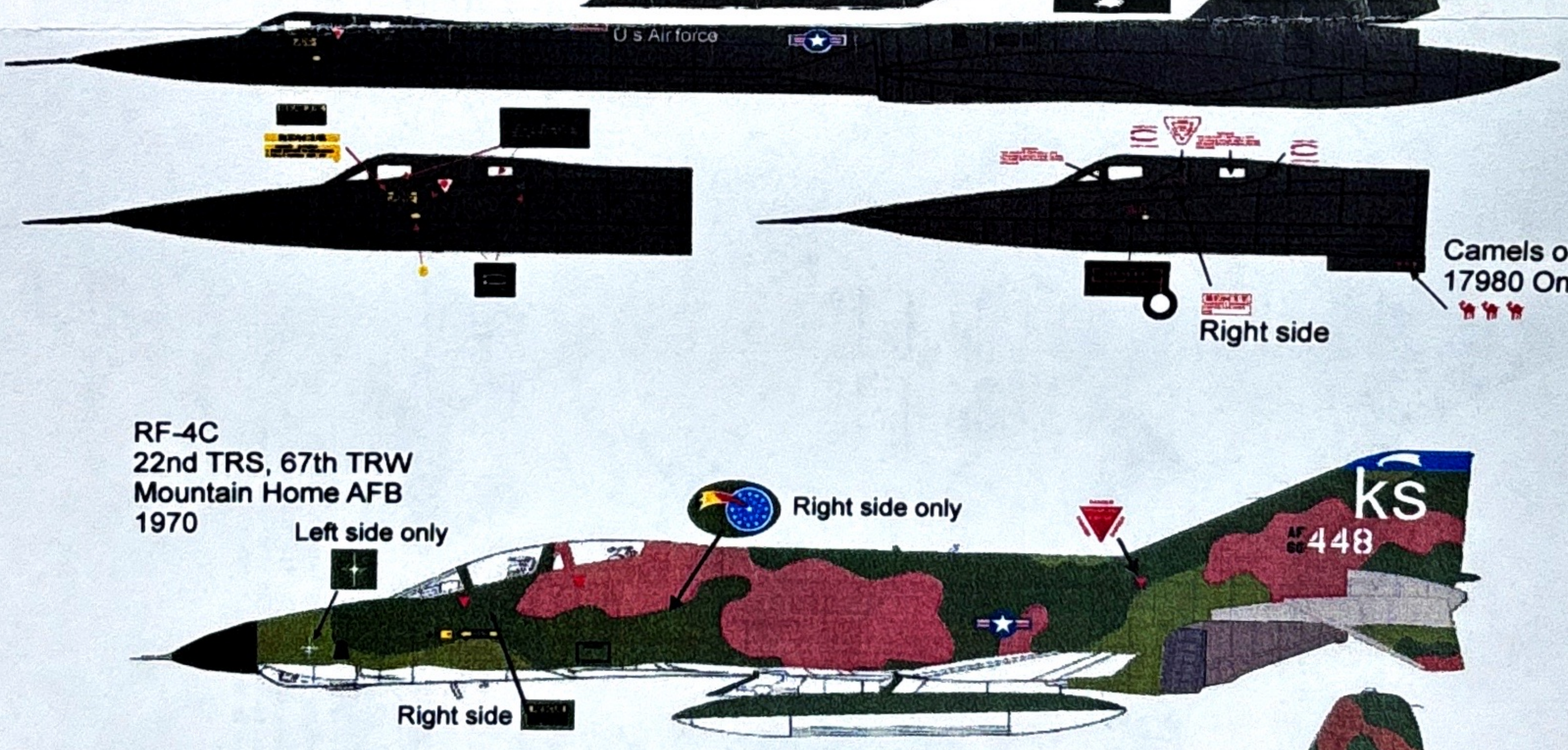



SR-71A 9th SRW Det 4
RAF Mildenhal
17964 - 1981
17955 - ASARS-1- 1983
17980 Libyan Ops 1986

17980
or
17962

1796

17964








Camels on
17980 Only

Right side

RF-4C
22nd TRS, 67th TRW
Mountain Home AFB
1970

Left side only

Right side only


Right side

C-130B-II, 556th RS
Udorn RTAB
1971

Radome Gunship Grey

**RA-5C BuNo: 156628** The North American A-5 Vigilante was a powerful, highly advanced carrier-based supersonic bomber designed for the United States Navy. Its use in the nuclear strike role was very short; however, as the RA-5C it saw extensive service during the Vietnam War in the reconnaissance role. Originally nicknamed the "elephant" due to its size and engine noise, but eventually settling on a shortening of its proper name to "Vigi," the RA-5C excelled in its adopted reconnaissance role due to its high speed and sophisticated sensor and navigation systems.

In the postwar period, the US Navy was determined to obtain a nuclear strike capability, first acquiring the North American AJ "Savage" and Douglas A-3 "Skywarrior" bombers. These were both subsonic aircraft, and since aircraft design was evolving quickly at the time, both soon became obsolete for the missions for which they had originally been designed. North American Aviation (NAA) felt they could provide a more capable nuclear strike platform, and in November 1953 began a program on their own initiative using company funding to build an advanced carrier-based nuclear-strike bomber. After discussions with the Navy, the concept aircraft took shape as a twin-engine aircraft with advanced combat avionics, Mach 2 performance, and a "linear bomb bay" in which a nuclear weapon was ejected aft from the tail to give the aircraft a better chance of escaping the nuclear blast.

The Vigilante that entered service in 1961 was long and sleek, with a relatively small, high mounted swept wing, and all-moving slab tailplanes and tailfin, the latter of which could fold for carrier storage. The Vigilante featured a long list of new technologies, including wing skins made of aluminum-lithium alloy, critical structures made of titanium, variable ramp engine inlets, a windshield of stretched acrylics, and a retractable mid-air refueling probe. It had the advanced North American Autonetics AN/ASB-12 Bomb Directing Set, which included a multi-mode radar, a radar computer with an associated Pilot's Projected Display Indicator (PPDI) one of the first Head Up Displays to be fitted to an operational aircraft, a television camera under the nose for daylight target sighting, a Radar-Equipped Inertial Navigation System (REINS), based on technologies developed for the Navaho intercontinental cruise missile, and a digital computer system designated the Versatile Digital Analyzer (VERDAN). By the time the last A-5As were delivered to the fleet, there was no interest in using the Vigilante for nuclear strike, or even conventional attack though. Partly the issue was political; with the Navy's Polaris submarines coming on line, the Navy decided to focus on them as the service's strategic nuclear strike weapon, also the Navy felt that their other existing strike aircraft, such as the new Grumman Intruder, were more cost-effective for conventional strike missions. There were also the technical issues dogging the aircraft; its maintenance record was poor, and the linear bomb bay scheme was proving to be a nightmare in practice. The bomb bay tube ran through the fuselage between the engines, and since it was much longer than the nuclear store, expendable fuel tanks were tacked on in the rear of the store. During a strike, the entire assembly was popped out the tail with an explosive cartridge driving it down launch rails. Not only did the scheme prove unreliable, the store also tended to "draft" in the slipstream behind the aircraft, preventing the pilot from laying it down accurately. Rather than simply dumping the Vigilante, the US Navy decided that the Vigilante should be used for a different mission: the reconnaissance role.

The decision to develop the Vigilante strictly as a reconnaissance aircraft was taken at a time when efforts were already being made to enhance its attack abilities, so both an improved attack variant, the A3J-2 (later A-5B), and a reconnaissance version, the RA-5C, were built. Work began on the A-5B in 1961, with the first example flying at the end of April 1962. The most visible change from the A-5A was a modified "humpback" fuselage that offered a substantial increase in fuel capacity. Longer and wider flaps were fitted, as well as a new BLC scheme. Four stores pylons were fitted, two under each wing, the engine inlet ducts were also modified, and the brakes were improved to handle the increase in aircraft weight. Eighteen A-5Bs were ordered, but by the time the first of them was flying the Navy had given up on the Vigilante as a bomber, so only six A-5Bs were completed. They were used in an interim training role for the reconnaissance version, the RA-5C, and never reached fleet service. The remaining twelve machines in the batch were completed as RA-5Cs.

The RA-5C first flew on 30 June 1962 and incorporated all the new features of the A-5B. The major difference was the RA-5C's equipment fit, which featured a suite of reconnaissance gear that was state-of-the-art for the time. The TV camera under the nose became part of the reconnaissance suite, but most of the gear was carried in a long slender "canoe" on the bottom of the aircraft's fuselage and running from the nose gear back towards the tail. The reconnaissance equipment consisted of a KA-51A/B forward-looking oblique angle film camera, KA-50A, KA-51A, or KA-62A vertical film cameras, and various combinations of panoramic, vertical, or oblique film cameras, including the KA-58A panoramic camera for medium- to high-altitude work, or a KA-57A panoramic camera for low-altitude work. The cameras shot through prisms in the canoe that could be pivoted to permit shots straight down or from side to side. An AN/AAS-21 infrared sensor could provide a continuous film strip of thermal targets, such as hidden trucks, over a field of view 140 degrees wide, and finally, there was the Westinghouse AN/APD-7 Side Looking Airborne Radar (SLAR) which mapped to either side of the aircraft. Additionally one or two aircraft in each squadron were configured with Passive Electronic Counter Measures (PECM) antennas for the AN/ALQ-61 Electronic Reconnaissance System. The RA-5C's reconnaissance systems were under control of the backseater, who was designated the Reconnaissance Attack Navigator (RAN).

An RA-5C's mission was conducted in concert with the aircraft carrier's Integrated Operational Intelligence Center (IOIC). Electronic intelligence experts there studied the information stored on magnetic tape, while the film was passed through a one-hour processing system, and then inspected by photographic intelligence specialists. The RA-5C entered fleet service in 1964; forty three RA-5Cs were built, following the twelve A-5Bs that had been completed as RA-5Cs. After this batch was completed, the forty three surviving A-5As and A-5Bs were rebuilt to RA-5C standard, and the production line was shut down. The RA-5C proved so useful in Vietnam though, that the Navy ordered forty six more RA-5Cs in 1968, but only thirty six were actually completed, with the last rolling off the production line in August 1970. This final batch featured J79-GE-10 engines as well as a leading-edge wing extension trailing back from the air intakes, plus slightly modified air intakes.

After the RA-5C's introduction to fleet service in 1964, the aircraft was almost immediately sent into combat over Southeast Asia, with the first reconnaissance missions flown in August 1964. RA-5Cs were used to observe enemy troop concentrations and movements; obtain pre-strike information on a target and post-strike evaluations on the same target, and obtain imagery for the construction of detailed maps of all of South and North Vietnam. The RA-5C was generally the last aircraft launched from a carrier during an operations cycle, since it was one of the fastest aircraft the Navy had. The Navy typically assigned F-4s to protect the valuable RA-5Cs from North Vietnamese MiGs, and the F-4 pilots often had to

ask the Vigilante pilots to slow down, so the fighters could keep up. Once over enemy territory, the Vigilante flew continuously in full afterburner, keeping above Mach 1 at all times. It would fly into the target area at 7,000 to 8,000 feet and could often use its oblique cameras and other reconnaissance gear to obtain information without flying directly over the target. An electronic flash pod, powered by a spinner on its tail, could also be carried under either wing to provide illumination for night reconnaissance, but the three million candlepower flashes of light attracted too much unwanted attention from AAA gunners, so they were used infrequently after 1968.

Although the optical cameras in the sensor suite worked reliably, the electronic sensor systems proved troublesome under operational conditions. The old tunnel store system, now reduced to accommodating fuel tanks, was also sometimes a source of trouble; on a few occasions, the fuel tanks came loose during catapult shots, smashing through the tail cone to fall back on the ship's flight deck, causing a fire. Eighteen RA-5Cs were lost in combat during the war, giving it the highest loss rate of any Navy aircraft in the war. Thirteen Vigilantes were shot down by flak, two were shot down by SAMs, one was shot down by a MiG-21, and the other two were lost to unknown causes over enemy territory. The loss rate was high because the missions were unusually hazardous. Vigilantes were used for both pre-strike and post-strike reconnaissance. Pre-strike missions were relatively safe, but the North Vietnamese quickly realized after a target was bombed a reconnaissance aircraft would soon arrive to evaluate the damage, and so post-strike missions were generally conducted in the face of an enemy that was thoroughly alert and waiting. As the war wound down in the mid-1970s, so did Vigilante reconnaissance squadrons. With the aircraft out of production, obtaining spares became increasingly difficult, as did keeping a complicated machine like the RA-5C flying. The Navy also increasingly regarded a dedicated reconnaissance aircraft as something of a luxury on the limited space of a carrier, preferring to fit fighter-attack aircraft with reconnaissance pods, trading off a better capability for more operational flexibility. The Vigilante squadrons began disbanding in 1974, and by 1979 the Vigilante was out of service.

Our subject is shown as it appeared in August 1974 and wears the Bicentennial markings of RVAH-12, and was carrying a flasher pod under the port wing when photographed. Formed on 1 July, 1965, specifically to operate the RA-5C, RVAH-12 was the first unit ever commissioned as a Reconnaissance Attack Squadron from its inception, and was disestablished on 2 July, 1979 with the retirement of the Vigilante. During the course of their Vigilante operations the "Speartips" were picked to serve as the short-term host unit for a little known, and at the time, highly sensitive project known as "SNARE." "SNARE" was an articulated, infrared spectrum sensor installed in a turret just ahead of the vertical tail on the topside of two aircraft (BuNos. 148933 and 151727). The Xerox-manufactured "SNARE" was hydraulic and controlled by the RAN, and a viewfinder for aiming the turret was provided. All of the system's electronics were contained in the basic module, which protruded approximately ten inches above the topside of the aircraft; data from the unit was collected on a 16 channel tape recorder for later evaluation. "SNARE" missions were flown from the USS Independence, whilst it operated in the North Atlantic very near to the Artic Circle. Collection targets were laser emitters and other related system data from special Soviet Badger, Bear, and Bison aircraft. These long range bombers flying fleet observation missions from Russian soil were flown against the USS Independence battle group operating with NATO forces. Our subject was retired to AMARC on 8 Feb, 1979.

Notes for modelers: The flash pod could be mounted under either wing, and was typically carried one at a time; chaff/flare dispensers were usually carried in front of the main landing gear wells on operational missions. As one of the last batch of aircraft to be built, this aircraft used the extended wing roots, straight inlet leading edges, later AN/ALQ-41/100 tail ECM antenna and extended -10 engine nozzles. The pilot's HUD had been removed by this point as had the nuclear flash curtains for the pilot's canopy. For photos of the instrument panels the modeler is referred to www.uscockpits.com. Due to repaints, this aircraft only retained the major stencil markings.

Typical weapons load options: N/A

Color Keys: The exterior paint scheme was the standard Light Gull Gray FS #36440 and FS #17925 Insignia White; although, the white rapidly weathered to a semi-gloss or matte finish. The wing and horizontal stabilator leading edges were natural metal, and the nose radome was a decidedly nonstandard red to match the squadron's insignia as part of the "Bicentennial" scheme. The basic color of the front and aft cockpits, control stick, and instrument panels was Dark Gull Gray FS #36231, with instrumentation on the main instrument panels and side consoles in black. The pilot's canopy interior was matte black, whilst the RAN's canopy interior was matte white with a rectangular matte black section (including the sliding panels) around the two windows. The North American HS-1A seats were Dark Gull Gray with sage green back pads and olive drab seat cushions. The ejection handles and survival kit release handle were painted in the usual yellow and black striped manner. The seat lap belt was a medium gray color, while shoulder harness and survival kit straps were a medium greenish-gray color. As always the website http://www.ejectionsite.com/ is invaluable for ejection seat references. Wheel well and gear door interiors, as well as the landing gear and nose wheels were semi-gloss white, while the main gear wheels were dark metallic gray with white rims; gear doors were edged in Insignia Red. Intake interiors were also semi-gloss white, as was the flasher pod.

**U-2R Serial No: 80-1086** The Lockheed U-2 is a single-engine, very high-altitude surveillance aircraft flown by the United States Air Force and previously operated by the Central Intelligence Agency. It provides day and night, all-weather surveillance and is also used for electronic sensor research and development, satellite calibration, and satellite data validation.

In the early 1950s it was thought an aircraft that could fly at 70,000 feet would be beyond the reach of Soviet fighters, missiles, and even radar, thus allowing overflights of an adversary's airspace in order to take aerial photographs. The Air Force gave contracts under the code name *Aquatone* to Bell Aircraft, Martin Aircraft, and Fairchild to develop proposals for the new reconnaissance aircraft; officials at Lockheed Aircraft Corporation heard about the project and asked aeronautical engineer Clarence "Kelly" Johnson to come up with a response. Johnson's design, called the CL-282, married long glider-like wings to the highly modified fuselage of another of his designs, the F-104 Starfighter. The design was rejected by the Air Force, but caught the attention of several civilians on the review panel, who proposed to CIA director Allen Dulles that his agency should fund and operate this aircraft. Lockheed subsequently received a $22.5 million contract for the first twenty aircraft which were renamed the U-2, with the "U" referring to the deliberately vague designation "utility". The first flight occurred at the Groom Lake test site (Area 51) on 1 August 1955, during

what was only intended to be a high-speed taxi run, but the sailplane-like wings were so efficient that the aircraft jumped into the air at 70 knots.

The unique design that gives the U-2 its remarkable performance also makes it a difficult aircraft to fly; the high-aspect-ratio wings give the U-2 some glider-like characteristics, and to maintain their operational ceiling of 70,000 feet, the early models had to fly very near their maximum speed; however, the aircraft's stall speed at that altitude was only 10 knots less than its maximum speed. Because of the high operating altitude the pilots have to wear the equivalent of a space suit, which delivers the pilot's oxygen and pressure supplies plus emergency protection in case cabin pressure is lost at altitude. The aircraft carries a variety of sensors in the nose, in the Q-bay behind the cockpit, or in wing pods making the U-2 capable of simultaneously collecting signals, imagery intelligence, and air samples and data linking the information to a ground site.

During its time in service, this aircraft has gone through several designations. The U-2A was the initial production, single-seat version powered by the Pratt & Whitney J57 turbojet engine, whilst the U-2B was a J57 powered, two-seat trainer version. This was followed by the U-2C, an enhanced single-seat model with the more powerful J75 turbojet engine (also used by the F-105 and F-106) and modified engine intakes; the two seat version of this was the U-2D. The U-2CT was an enhanced two-seat trainer rebuilt from U-2D airframes with a relocation of the seats; six are known to have been converted. The U-2E and U-2F designations were given respectively to a number of A and C models that were modified for air to air refueling. The U-2G designation was for A models modified under *Project Whale Tale* with reinforced landing gear, an added arresting hook, and wing spoilers for US Navy carrier operations; three of these were produced. As the sensor systems grew heavier and bulkier, the performance of the U-2 started to suffer, so Lockheed revised the U-2 design and increased it in size with the new aircraft being designated U-2R ("R" for "Revised"). The U-2Rs were based on the C-model, and were enlarged and improved with underwing pods plus increased fuel capacity; twelve of these were built along with one U-2RT, which was a two seat, trainer version. As attrition mounted, the Air Force required more U-2 aircraft, but to distance the new aircraft from the somewhat sinister reputation of the U-2 designation, they now designated them as TR-1A, with the "TR" standing for Tactical Reconnaissance. The TR-1A was based on the U-2R but with a side-looking radar, new avionics, and improved ECM equipment; thirty three of them were built, along with two TR-1B two seat trainers. In time, the logistics of supporting two similar airframes with two different designations became a problem; in addition, the TR-1 designation failed to separate the new aircraft from the mystique of the U-2 designation. To solve these logistical issues, all TR-1A aircraft were redesignated as U-2R aircraft in 1991, with the TR-1B becoming the U-2RT. The newest designation, U-2S, came about in the 1990s, when the surviving U-2R aircraft were upgraded with newer General Electric F118 turbofan engines (a derivative of the engines used by the B-2 bomber), improved sensors, and the addition of a GPS system; thirty one of these conversions were produced along with four TU-2S two-seat trainers. The main external difference between the U-2R and U-2S are the two small engine auxiliary air louvers in the upper wing roots; the U-2R has these louvers, the U-2S does not. After the upgrade, the former U-2Rs were designated the U-2S *Senior Year*.

The U-2 is still in frontline service more than 50 years after its first flight despite the advent of surveillance satellites. This is primarily due to the ability to direct flights to objectives at short notice, which satellites cannot do. Production was restarted in the 1980s, and ironically the U-2 has outlasted its Mach 3 SR-71 replacement, which was retired in 1998. A budget document approved by The Pentagon in December 2005 called for the termination of the U-2 program no later than 2011, with some aircraft being retired by 2007; however, as of 2010, Congress has not passed legislation to retire the U-2, as there is no system able to replace it. Additionally, in 2009, the Air Force stated that it plans to extend the U-2 retirement from 2012 until 2014 or later, to allow more time to field the RQ-4 "Global Hawk" Unmanned Aerial Vehicle (UAV) to replace the U-2.

This aircraft is assigned to the 9th Reconnaissance Wing, which was activated as the 9th Strategic Reconnaissance Wing in May, 1949 at Fairfield-Suisun Air Force Base in California. The 9th Wing not only conducted photoreconnaissance missions for the Strategic Air Command (SAC), using B-29, RB-29, and RB-17 aircraft, but also trained with several B-36s assigned during 1949–1950. The 9th Reconnaissance Wing became a bomber unit again on 1 April 1950, redesignated as the 9th Bombardment Wing, Heavy, and then, after it converted to the B-29 Flying Fortress, was again redesignated as the 9th Bombardment Wing (Medium) in October of 1950. Throughout the 1960s, the wing did many things for the Air Force, one of which included conducting Strategic Air Command (SAC) airborne communications relay missions from December 1962 to March 1965. They even controlled a Titan missile complex from June 1961 to June 1965.

The wing phased down operations at Mountain Home Air Force Base from January to June 1966, and moved to their present home of Beale Air Force Base, where they were equipped with the SR-71 Blackbird in 1966, absorbing the resources of the inactivating 4200th Strategic Reconnaissance Wing. This allowed it to stay with the same higher formation, the 14th Strategic Aerospace Division. The wing performed strategic reconnaissance in Southeast Asia beginning in 1968, where it provided photographic intelligence for the raid on the North Vietnamese Son Tay prison camp, code named *Operation King Pin*, in November, 1970. After the Vietnam War, the 9th conducted photographic reconnaissance mission's worldwide supporting Department of Defense objectives. The wing added the U-2R in 1976 and specialized KC-135Q Stratotanker aircraft in 1983, making it the only USAF wing equipped with these aircraft. It used these aircraft to support the invasion of Grenada in October of 1983 and the air strikes on Libya in April 1986. Following the 1990 retirement of the SR-71, the U-2 flew intelligence-gathering missions from August 1990 to March of 1991 over Southwest Asia during the Gulf War buildup and subsequent combat operations. The 9th Reconnaissance Wing is currently the "single-point manager" for the U-2 "Dragon Lady" and RQ-4 "Global Hawk" high-altitude reconnaissance fleets, flying the "Global Hawk" in support of U.S. military operations in Afghanistan in late 2001 and Iraq in early 2003. Our subject was manufactured as a TR-1A and has since undergone the conversion to the U-2S configuration; the markings cover it in the U-2R configuration though.

Notes for modelers: At the time of these markings this jet was fitted with an extended nose to carry the ASARS II synthetic aperture radar, whilst the super pods and lower fuselage carried the *Senior Glass* modifications. It was not carrying the large *Senior Span/Spur* satellite up-link pod atop the aircraft though. ECM blisters were mounted on the intake sides and the large UHF blade antenna and bent, thin ADF whip antennae were mounted on the spine along with the double anti-collision beacons. The TR-1/U-2R/U-2S series use the Lockheed RQ201 ejection seat which is based on the seat used in the SR-71; the main modifications for the

RQ201 are moving the secondary ejection handle to the left side of the seat pan, and the double-D ring is replaced by a single loop D-ring. Some pictures of the U-2R are available at www.primeportal.net, but the best pictures are in the reference section at www.hyperscale.com which contain an extensive walkaround of a later U-2S, and is useful for wheel well, intake, speedbrake, "System 20" fairing, and cockpit pictures, along with the modifications for the left wing super pod (flat sides and canoe fairing), right wing super pod (blade antennas), and the antenna "farm" under the fuselage. Also, www.uscockpits.com and www.ejectionsite.com can be checked for photos of the instrument panel layout and ejection seat respectively and the website www.blackbirds.net for additional info on the U-2. Finally, a comment on the tail code is appropriate. With a serial number of 80-1086 one would expect to see a tail code of "80-086," but whether through paint peeling or touchup the tail code on our subject appeared to be "90-086" at this point.

Typical weapons loads: N/A

Color Keys: This aircraft was painted in the usual faded matte black scheme. The basic color of the cockpit, canopy rails, and instrument panel is Gray FS #36231, with instrumentation on the main instrument panel and side consoles in black. The canopy interior and instrument panel coamings are matte black; as is the canopy sun shade. The Lockheed manufactured RQ201seat is semi-gloss black with an Insignia Red headrest. The seat cushion is black leather, and the ejection handles are the usual yellow color with black stripes. The back pad/parachute, shoulder harness, and drogue chute cover atop the seat headrest are all green-gray, whilst the lap belts are off white. The main landing gear wheel well and gear door interiors are a mix of untinted (yellow) zinc chromate and an odd, variable light green color (speculation is gloss white paint applied over zinc chromate) close to FS #34585, while the main landing gear strut is metallic black, and the main wheels are gloss white. The tail wheel well interior is untinted (yellow) zinc chromate, the tail wheel strut is gloss white, the tail wheel hubs are untinted (yellow) zinc chromate, whilst the wheels themselves are a light tan (close to FS #30450) and the tail wheel door interiors are matte black. The engine intakes had the exterior camouflage continued inside for the first foot, then transitioned to the light green color for the rest of the distance to the engine. Speedbrake interiors are matte black; although, typically darker than the exterior due to a lack of fading. The "pogo wheels" on the wings and their struts are painted red-orange close to FS #31400.

**RF-101C-40-MC Serial No: 56-173** The McDonnell F-101 Voodoo was a supersonic military fighter flown by the USAF and the Royal Canadian Air Force (RCAF). Initially designed as a long-range bomber escort for the Strategic Air Command (SAC), the Voodoo was instead developed as a nuclear armed fighter-bomber for the Tactical Air Command (TAC), and also as a reconnaissance aircraft for TAC based on the same airframes. Extensively modified versions were also produced as a two seat all-weather interceptor aircraft, serving with the Air Defense Command (ADC), Air National Guard (ANG), and RCAF. The Voodoo's career as a strike fighter was relatively brief, but the reconnaissance versions served for some time and were instrumental during the Cuban Missile Crisis and saw extensive service during the Vietnam War.

Development of the unarmed RF-101, the world's first supersonic photo-recon aircraft, began in 1956; resulting in the manufacture of thirty five RF-101As and one hundred and sixty six RF-101Cs, plus the conversion of earlier single-seat fighter Voodoos to the reconnaissance configuration. A reconnaissance version of the future F-101A was included in the initial government request of February 1951, with the first flight happening in May 1954 and the last two RF-101As delivered in October 1957. The most distinctive feature of the RF-101A was its nose, which had been slightly lengthened for the installation of photographic equipment. This equipment (initially unavailable or scarce) normally comprised a long focal length Fairchild KA-1 framing camera, one vertical and two side oblique Fairchild KA-2 framing cameras, and one KA-18 strip camera. The next production version, the RF-101C differed from the RF-101A in two respects. It had the strengthened internal structure of the F-101C, and had retained that aircraft's capability for delivering nuclear weapons. In terms of operational service, the RF-101C also followed the F-101C's pattern by quickly outclassing the earlier A model, with the RF-101C soon establishing itself as the Air Force's reconnaissance workhorse. RF-101C production ended in March of 1959 after one hundred and sixty six had been accepted and the first aircraft went operational at Shaw AFB, with the 20th and 29th squadrons of the 432nd TRW. This was quickly followed by European assignments, when the 66th Tactical Reconnaissance Wing at Laon Air Base in France converted from RF-84Fs in the spring of 1958. When President Charles de Gaulle withdrew France from NATO participation, USAF units had to leave the country resulting in French based Voodoos moving to Ramstein AB in Germany and RAF Upper Heyford in England. In the Pacific, RF-101Cs served at both Kadena AB on Okinawa and Misawa AB in Japan. The counterpart to the RF-101C was the RF-101H, which was produced by converting thirty two F-101C airframes. Like the earlier RF-101Gs (conversions of the F-101A), these RF-101Hs were assigned directly to the National Guard.

Also like the RF-101A, the RF-101C was beset with excessive maintenance difficulties and poor supply support upon their service entry. The premature failure of components, due to design deficiencies, aggravated these initial operational problems. In January 1959 all RF-101s were grounded for one week because of the collapse of main landing gears. In August of the same year, the aircraft were again temporarily grounded because of deficient hydraulic systems. The Air Force quickly improved maintenance and supply support of the Voodoos, and by 1960 the squadrons so equipped were maintaining good operational rates; although, no easy solution would ever be found for the skin cracks and corrosion problems that plagued all models of the F-101 during their service lives. The Air Force continuously strove to improve the RF-101's reconnaissance capability and gave the aircraft better photographic and electronic components as soon as they became available; however, the first major modernization program did not take place until 1962, when most RF-101s were refitted with new, high resolution KA-45 cameras in the forward station and with two 12-inch KA-47s replacing the KA-1s. A special modification allowed the aircraft to take photographs at lower altitudes and the installation of a centerline ejector pod with flash cartridges gave the RF-101 a limited night photography capability. The *Toy Tiger* program of 1964/65 involved a retrofit of earlier RF-101Cs with panoramic KA-45 cameras and vertical gyro-stabilized platforms, including night cameras using flash cartridges, as well as the Hycon KS-72 cameras and automatic controls that were originally designed for the RF-4C Phantom allowing the RF-101C to fully exploit its low altitude capabilities.

RF-101A/C aircraft of the 363rd Tactical Reconnaissance Wing flew vital reconnaissance missions over Cuba during the Missile Crisis of October 1962, confirming and then monitoring the Soviet missile buildup on that island. The first missions over Cuba took place on 23 October, 1962, and

fifteen pilots from the 363rd were awarded Distinguished Flying Crosses during that action. In Southeast Asia, only the RF-101C version was deployed to South Vietnam, with the first ones arriving in October of 1961 to fly intelligence gathering flights over South Vietnam and Laos under the code names *Pipe Stem* and *Able Mabel*; in fact, the RF-101C was the first USAF jet to fly combat missions in SEA. These reconnaissance missions lasted through the spring of 1964, when the 20th TRS was moved in to replace the 15th TRS, which converted to RF-4Cs. The 20th TRS operated from Udorn RTAFB in Thailand for most of its service life, and covered most of the missions over northern North Vietnam, whilst the 45th TRS was based at Tan Son Nhut, and covered the south. Bombing missions against the North required a large amount of photographic reconnaissance support, and by the end of 1967, all but one of the TAC RF-101C squadrons were in Southeast Asia. When the RF-101C began operations in South East Asia, the missions were initially medium-altitude single-ship flights; although, two-ship missions were allocated to particularly well-defended areas. When the SAM threat became more severe, the Vooodos began using a low-altitude high-speed approach to the target, followed by a quick pop-up to 10,000 to 15,000 feet for the photographic run, then a dive back down to lower altitudes for egress. This tactic continued until April 1967, when improved ECM equipment in the form of AN/ALQ-71 pods allowed a return to medium altitudes. However, the presence of the pods seriously degraded the high-speed performance of the RF-101C, making it easier for MiGs to catch it. The RF-101C was fast enough to easily evade interception by North Vietnamese MiG-17s, but the Mach-2 MiG-21 was another story; consequently, fighter escorts began to accompany the RF-101C flights. Following the loss of an RF-101C to a MiG-21 "Fishbed" in September of 1967, the RF-101C was replaced by the McDonnell RF-4C Phantom II in reconnaissance missions over North Vietnam; after that time, the Voodoo was restricted to missions over Laos and South Vietnam, where the probability of encountering enemy fighters was much smaller. The last RF-101C left Vietnam on 16 November, 1970, bringing Voodoo participation in the South East Asia War to an end. Thirty three RF-101Cs were lost in combat in Southeast Asia: twenty four to AAA, five to surface-to-air missiles, one to a MiG-21, one in a sapper attack on its base at Tan Son Nhut Air Base near Saigon, and two to unknown causes. Six were also lost in operational (non-combat related) accidents while serving in Southeast Asia. Plans had been made for the RF-101C to be gradually phased out of USAF service in favor of the McDonnell RF-4C Phantom II beginning in 1965, with the RF-101s withdrawn from USAF service being transferred over to the Air National Guard. However, the requirements of the Vietnam War forced the USAF to change its plans, and the RF-101C had to soldier on for a few more years. The Air National Guard did not get its first batch of RF-101Cs until early 1969. Over the next two years though, the Vietnamization program increased the pace at which USAF units left Southeast Asia, and more and more RF-101Cs were transferred to the ANG, with the last Voodoos departing the war zone in November of 1970. The last USAF RF-101C left the 31st TRTS, a replacement training unit at Shaw AFB, on 16 February, 1971 and was turned over to the Air National Guard. The RF-101C served with the ANG only for a relatively short time; the last Guard RF-101C being retired in 1975, four years after the retirement of the RF-101A fleet. This RF-101 is shown in the markings of the 31st TRTS, part of the 363rd TRW at Shaw AFB in July of 1970. Our subject was retired to AMARC on 7 October, 1975

Notes for modelers: This aircraft was fitted at this point with the wedge shaped camera fairing under the nose and RWR gear to include the cockpit display mounted atop the instrument panel coaming and the external fairings on the nose and drogue chute cover on the tail, along with formation strip lighting. The two prominent landing lights on the nose gear are missing from the Hasegawa kit. Numerous repaints had removed all but the major servicing markings on this aircraft; even the rescue triangles had been painted over at this point. The website www.primeportal.net is a useful reference site for the Voodoo with a pair of RF-101 "walkarounds." Also valuable is www.uscockpits.com for its pictures of the instrument panel.

Typical weapons loads: A pair of AN/ALQ-87 ECM pods could be carried under the wings on removable pylons. When the pods were not carried the pylons were not typically fitted.

Color Keys: Exterior finish of the aircraft was the standard SEA camo scheme. The basic color of the cockpit, canopy rails, and decking aft of the ejection seat was Dark Gull Gray FS #36231, with instrumentation on the main instrument panel and side consoles in black. The canopy interior and instrument panel coaming were matte black. The Weber Aircraft Company ejection seat was Dark Gull Gray with Insignia Red headrests and arm restraint padding. The seat cushion and seat-man separator strap were olive drab, and the ejection handles the usual yellow color with black stripes. The shoulder harness was a very light gray, while the lap belts were a medium green-gray. As was usual with seats of the era, the parachute pack (which acted as the back pad) was not typically left in the seat between missions. Not to be repetitive, but www.ejectionsite.com should be checked for ejection seat pictures. The main and nose landing gear wheel wells were interior green FS #34151, while gear door, speed brake, and speed brake well interiors were gloss Insignia Red (FS #11136); the landing gear and wheels were matte aluminum lacquer, and the intake interiors were Light Camo gray FS #36622. The AN/ALQ-87 pods were matte white with semi-gloss white radomes and antennas.

**SR-71A Serial No 64-17964, SR-71A Ser No 64-17980, and SR-71A Ser No 64-17962**

Recognizing the increased vulnerability of its U-2 aircraft to Surface to Air Missiles (SAMs) the Central Intelligence Agency (CIA) commissioned the 1957 *Rainbow* study which called for a high speed, high altitude replacement designed with a low Radar Cross Section (RCS) and fitted with Radar Absorbent Material (RAM). The result was the Lockheed A-12 single seat aircraft, built by their famed "Skunk Works" and based on a design by the legendary Clarence L. "Kelly" Johnson. Within Lockheed, the high flying U-2 had been referred to as "Kelly's Angel," and the blistering, enhanced performance of the new aircraft led to it being christened the "Archangel" thus providing the "A" designation for the A-12 under what became known as the *Oxcart* program. The Air Force ordered its own reconnaissance version of the A-12 in December 1962 using the *Senior Crown* program name, initially designating it the R-12, only to have to change it later to the SR-71.

The SR-71 was longer and heavier than the A-12, its fuselage was lengthened for additional fuel capacity to increase range, a second cockpit was added, and the chines were reshaped. Its reconnaissance equipment included signals intelligence sensors, a side-looking radar, and photo cameras. During the 1964 campaign, Republican presidential nominee Barry Goldwater continually criticized President Lyndon B. Johnson and his administration for falling behind the Soviet Union in the research and development of new weapons systems. Johnson decided to counter this criticism by releasing information on the hitherto highly classified A-

12 program, and later the Air Force's proposed version, which was still under development. The SR-71 designator is a continuation of the pre-1962 bomber series, which ended with the XB-70 Valkyrie. During the latter part of its testing, the B-70 was proposed for the reconnaissance/strike role, with an RS-70 designation. When it was clear that the Lockheed A-12 performance potential was much greater, the USAF decided to pursue an RS-71 version of the A-12 rather than the RS-70; however, General Curtis LeMay, preferred the SR (Strategic Reconnaissance) designation and wanted the RS-71 to be named the SR-71, so he lobbied to modify Johnson's speech announcing the plane's existence accordingly. The media transcript given to the press at the time still had the earlier RS-71 designation in places though, creating the myth that the President had misread the aircraft's designation. This public disclosure of the program and its renaming came as a shock to everyone at the Skunk Works and to Air Force personnel involved in the program. All of their printed maintenance manuals, flight crew handbooks, training slides and materials were still labeled with the original "R-12" designation; whilst the 18 June 1965 Certificates of Completion issued by the Skunkworks to the first Air Force Flight Crews and their Wing Commander were labeled "R-12 Flight Crew Systems Indoctrination, Course VIII". Following President Johnson's speech the name change was taken as an order from the Commander-in-Chief, and immediate reprinting began of new materials, including 29,000 blueprints which had to be renamed "SR-71." One can only imagine the cost involved.

The SR-71 was the first operational aircraft purposely designed around a stealthy shape and materials. The most visible marks of its low radar cross section (RCS) are its inwardly-canted vertical stabilizers and the fuselage chines. Though with a much smaller RCS than expected for a plane of its size, it was still easily detected, because the exhaust stream would return its own radar signature (even though a special cesium compound was added to the fuel to reduce this signature). The SR-71 remained the world's fastest and highest-flying operational manned aircraft throughout its career. From an altitude of 80,000 ft, it could survey 100,000 square miles per hour of the Earth's surface. In addition, it was accurate enough to take a picture of a car's license plate from this altitude. On 28 July 1976, an SR-71 broke the world record for its class: an absolute speed record of 1905.81 knots, and an "absolute altitude record" of 85,069 feet. Several aircraft exceeded this altitude in zoom climbs but not in sustained flight. The first flight of an SR-71 took place on 22 December 1964, and the first SR-71 to enter service was delivered to the 4200th (later, 9th) Strategic Reconnaissance Wing (SRW) at Beale Air Force Base, California, in January 1966. SR-71s first arrived at the 9th SRW's Operating Location (OL-8) at Kadena Air Base, Okinawa on 8 March, 1968. It was at Kadena that the aircraft picked up the nickname "Habu." Whilst "Blackbird" is the name usually used for the SR-71 by the popular media, those actually associated with the program invariably used the "Habu" name which came from a long, dark poisonous pit viper native to the Ryuku island chain. From the beginning of the SR-71's reconnaissance missions over enemy territory (North Vietnam, Laos, etc.) in 1968 under the *Black Shield* code name, they averaged approximately one sortie a week for nearly two years. By 1970, the SR-71s were averaging two sorties per week, and by 1972, they were flying nearly one sortie every day. In Europe and the Middle East operations were primarily staged out of RAF Mildenhall, starting in September of 1974 and ending in January of 1990, under the *Giant Reach* moniker. The United States Air Force Strategic Air Command was the primary operator of the SR-71, flying it from 1966 through 1990, when it was first retired.

Naturally enough, the retirement of such an extraordinary aircraft evoked some controversy. Ultimately it was retired because the primary operator (the USAF) was paying for an asset that typically produced intelligence for other agencies, mainly the CIA and the Navy, and competed for funding with other programs that the USAF preferred. Additionally, the SR-71 was assigned to the Strategic Air Command (SAC), but SAC didn't see the plane as contributing to its mission of dropping bombs, plus it required its own tanker assets. Further, unlike the various RC-135s and U-2s also operated by SAC, the SR-71 couldn't loiter. There were proposals to treat the SR-71 as a national asset and fund it accordingly, but these common sense moves were blocked at various levels; there was also limited talk of the U.S. Navy funding the program, but this also went nowhere leading to its retirement. The SR-71 was briefly returned to service from 1994 to 1997, but retired again in the face of Air Force resistance to the effort in the cash strapped, downsizing defense environment of the mid 1990s. Of the thirty two aircraft built, twelve were destroyed in accidents, though none were lost to enemy action, despite over four thousand reported attempts to do so.

The primary subject of our decals (64-17964 aka Article Number 2015) was nicknamed the "Bodonian Express." It picked up this name after an emergency landing at Bodo Air Base in Norway. Although Bodo was not a Detachment, it was an emergency recovery base for European flights, and five SR-71s landed there between 1981 and 1985. This aircraft was forced to land at Bodo with an engine oil problem on 14 August, 1981 and departed Bodo two days later on 16 August, 1981, when it flew subsonic to RAF Mildenhall in the United Kingdom. "Bodonian Express" appears to have developed an affinity for Norway, after having been the first to divert there in August 1981, the aircraft had the honour of visiting the country twice more while on operations. On 6 March 1987 it suffered a technical problem, requiring the crew to divert, and three months later, on 29 June, it landed in Norway again. Our primary subject is currently on display at the SAC Museum in Nebraska. Our alternate markings are two jets with "low visibility" markings. Serial number 64-17980 (Article Number 2031) flew three *El Dorado Canyon* Battle Damage Assessment (BDA) sorties over Libya, and had the camel mission marks on the left nose gear door to prove it; it was placed on static display in front of Dryden Flight Research Center in September of 2002. The last wears the temporary serial number 64-17962 which was carried by aircraft 64-17955 (Article Number 2006) whilst performing OT&E on the ASARS-2 radar at RAF Mildenhall in 1983. This was the jet's only deployment overseas, as it was operated exclusively during its lifetime by the Air Force Logistics Command out of Palmdale, and was the primary SR-71 test bed aircraft. This jet is currently on display at Edwards AFB.

Notes for modelers: As SR-71s, these aircraft were not equipped to carry the D-21 drone (the "D" standing for daughter); those were carried on the M-21 ("M" standing for mother), which was an A-12 modified to carry a second cockpit housing the Launch Control Officer. The rear cockpit instrumentation and exterior sensor apertures varied widely among airframes depending on the reconnaissance systems fitted. Our alternate aircraft, 64-17980, was fitted with a prominent Optical Bar Camera (OBC) in the nose and Technical Objective Cameras (TEOC) in the chine bays for its BDA sorties over Libya. A final comment is appropriate on the overall SR-71 color, the paint used has been described as "Midnight Blue" in many places; personal accounts from people who worked on the jet invariably describe it though as matte black, with a rough finish, due to the iron content of the paint. In service, the paint faded rapidly under the harsh

in-flight conditions. An extensive on line walkaround of the SR-71, including the cockpit, is available at the website www.aircraftresourcecenter.com whilst www.ejectionsite.com has excellent pictures of the ejection seats. For additional info www.blackbirds.net www.wvi.com/~sr71webmaster/sr-71~1.htm and www.habus.org are all recommended.

Color Keys: All three aircraft exteriors were finished in overall matte black. The basic color of the front and aft cockpits, rear cockpit instrument panel, and canopy interiors was Dark Gull Gray FS #36231, with a matte black control stick, cockpit floor anti-skid strips, front cockpit instrument panel, side console instrumentation, and instrument panel coamings. The Lockheed manufactured SR-1 seats were matte black with black leather seat cushions and sage green backpads/parachute packs. The head rest padding was Insignia Red FS #31136, and the drogue chute cover on top of the headrest was also sage green. Ejection handles and survival kit releases were painted in the usual yellow and black striped manner. The canopy sills were natural metal, and canopy actuators were matte black on their lower halves and gold on the upper. The main and nose gear wheel wells and gear doors were primarily unpainted titanium with some matte black sections, whilst the main and nose gear struts and wheel hubs were matte black. The main gear tires were impregnated with aluminum powder to withstand the inflight heat and were matte aluminum; the nose gear tires did not have this treatment though, and were the usual black rubber. Intake interiors were also matte black.

**RF-4C-31-MC Serial No 66-0448** In the early 1960s the USAF recognized the need or more tactical reconnaissance aircraft to supplement the RF-101s then in service. As a result, the Air Force produced the RF-4C, which was an unarmed, photographic reconnaissance version of their F-4C. The armament and AIM-7 wells of the F-4C were removed, and the only weapons capability they retained initially was for a nuclear store on the centerline station, later an AIM-9 capability would also be added. The most noticeable difference between the F-4C and the RF-4C was the presence of a longer, more pointed nose which carried mission equipment peculiar to the new role. From the time they were rushed into service in 1965 during the Vietnam conflict, the RF-4C provided sterling service in the USAF right through to the 1990 Gulf War, where the RF-4C was operated by several Regular and Air National Guard (ANG) units, conducting daylight missions in support of "Desert Storm". Throughout their distinguished career RF-4Cs performed a large variety of missions from reconnaissance missions over hostile airspace to the rapid transport of blood from state to state.

Unlike the Fighter versions of the Phantom, the RF-4C saw relatively little in the way of modification and, aside from alteration of the shape of the camera bay fairing in the nose to improve optical and aerodynamic properties, and minor upgrades in ECM fit, it remained, externally at least, essentially the same as the original 1962 design. The RF-4C first flew on 18 May 1964 and was based on the then standard Air Force fighter version, the F-4C. The addition of a thirty three inch nose plug and a fairing to accommodate cameras and other recce (pronounced "wreck-ee") equipment, along with the necessity to use the smaller AN/APG-99 radar due to space limitations, resulted in a slimmer nose for the RF-4C. This, allied to the faired over Sparrow bays, gave the airframe a more streamlined shape and a considerable speed advantage over the B and C versions but, due to the internal equipment taking up extra space, it had a decreased internal fuel capacity. All weaponry was deleted apart from the ability to carry the single nuclear weapon (much like the RF-101, which the Phantom replaced). In fact, in later years, the Alconbury, England based 10th TRW RF-4C Phantoms were fitted with AJB-7 LABS (low altitude bombing system) equipment for nuclear delivery. Some RF-4Cs were eventually equipped for the "Fast FAC" (forward air controller) role and could carry the AN/AVQ-26 "Pave Tack" pod. This enabled the RF-4C to lead strike packages and designate targets for other aircraft. A self defence capability was also installed, after much debate, giving the RF-4C the ability to use the AIM-9 Sidewinder.

The RF-4C was equipped with three camera bays and could operate a large variety of camera systems in numerous combinations. The forward, No.1 station mounted a single forward oblique or vertical KS-87 or KS-72 camera with three or six inch focal length lens. The No.2 station, with its side window panels, normally housed a single KA-56 low altitude panoramic camera but could carry up to three KA-87s, orientated in different directions. Finally, station No.3, just ahead and under the cockpit was generally used to house a single KA-55A or KA-91 high altitude panoramic camera. Externally, the RF-4C could also mount the G-139(HIAC-1) LOROP camera, originally designed for the RB-57. The pod for this system produced huge amounts of drag though, so it was rarely carried despite the impressive results it gave. The RF-4C was not equipped solely with cameras for reconnaissance. The main non-optical sensors carried were the AN/AAS-18 IRR infrared detection system and the AN/APQ-102 SLAR radar mapping system. Both systems were installed internally.

The first RF-4Cs were delivered to Shaw AFB from July 1964 and operated alongside that wing's other assets, RF-101 Voodoos and RB-66 Destroyers. The 16th Tactical Reconnaissance Squadron (TRS) was declared operational in August 1965 and was soon deployed to SE Asia. Later, elements of the 16th formed the 4415th Combat Crew Training Squadron (CCTS) which became the 33rd Tactical Reconnaissance Training Squadron (TRTS) in October 1969. The RF-4C eventually equipped up to 14 Tactical Air Command (TAC) squadrons in five wings (excluding composite or provisional wings in SE Asia and the Gulf) and also equipped numerous ANG units. The 67th RW (formerly TRW) operated the RF-4C beginning in 1968 at Mountain Home AFB, and then moved to Bergstrom AFB in July 1971, where the 67th replaced the disbanding 75th TFS. At one time the wing operated five squadrons and eventually inherited the RF-4C training squadron, the 62nd TRTS, from Shaw AFB. By October of 1991; however, the unit had been reduced to a single squadron, the 12th RS the last squadron to operate the RF-4C in the regular USAF. By the end of 1992 this unit had been disbanded and its aircraft stored or issued to ANG units. With the passing of the 67th RW, the Air Force only operated the RF-4C with a few ANG units, but eventually these also gave up their RF-4Cs; the last unit to do so being the "High Rollers" of the Nevada ANG at Reno. The role of the RF-4C was initially taken over by Air National Guard F-16Cs equipped with the Theatre Airborne Reconnaissance System (TARS) pod and later by unmanned systems such as the MQ-9 "Predator" and RQ-4 "Global Hawk."

Our subject is shown while assigned to the 22nd TRS at Mountain Home AFB in July 1970. The 22nd TRS was a short lived squadron, formed in September of 1966 and disbanded in October of 1971, when the 67th TRW was transferred to Bergstrom from Mountain Home following the return of the 366th TFW from Da Nang AB in South Vietnam to Mountain Home. This aircraft was written off in an accident on 22 June, 1980.

Notes for modelers: This aircraft used the original angled camera window projection under the nose; it did not have the arrow shaped reinforcements on the horizontal stabs. At this

time frame, the more common ECM pod carried was the "short" AN/ALQ-101, on either stations 2 or 4, or both; the AN/ALQ-87 could also be seen. The RF-4C used the Navy type inboard pylons with straight leading edges, rather than the curved ones used by the rest of the USAF F-4 fleet. This period predates TO 1F-4(R)C-729 which provided AIM-9 capability on the right inboard wing pylon, and the centerline fuel tank was the old style F-4 tank. This particular aircraft had been freshly repainted so only the major stenciling remained, and the WSO's mirrors were all mounted internally on his canopy. Pictures of the front and rear cockpit instrument panels of the RF-4C are available at www.uscockpits.com.

External stores load:

| | |
|---|---|
| Left outer wing pylon - | Fuel tank |
| Left Inner Wing Pylon - | AN/ALQ-101 |
| Centerline - | Fuel tank (old style) |
| Right inner wing pylon - | Clean or AN/ALQ-101 or AN/ALQ-87 |
| Right outer wing pylon - | Fuel tank |

Color Keys: Exterior finish of the aircraft was the standard SEA camo scheme. The basic color of the front and aft cockpits, control sticks, and instrument panels was Dark Gull Gray FS #36231, with instrumentation on the main instrument panels and side consoles in black. The Martin Baker Mk 7 seats were semi-gloss black with various shades of Olive Drab evident on the hard shell parachute pack (headrest), back pads, and seat cushions. Leg restraints were blue (near FS #35123) with ejection handles and survival kit release handles being painted in the usual yellow and black striped manner. As always http://www.ejectionsite.com/ is invaluable for ejection seat references. The canopy interior, canopy sills, and instrument panel coamings were matte black. Wheel well and gear door interiors, as well as the landing gear and nose wheels were semi-gloss white, while the main gear wheels were dark metallic gray. Intake interiors were also semi-gloss white, as was the speed brake well. The interior of the speed brakes themselves and the auxiliary intake doors on the aircraft belly were gloss Insignia Red FS #11136, while visible equipment in the auxiliary intakes was Interior Green FS #34151. The AN/ALQ-101 pod was matte white with black radomes, whilst the AN/ALQ-87 pod was matte white with semi-gloss white radomes and antennae.

**C-130B-II Serial No: 59-1532** Development of the C-130 Hercules began in the early 1950s, and the popular transport continues to be produced in large numbers half a century later. New C-130J and L-100 airframes are still entering service, both for military and civil operators, a trend which shows no signs of slowing for at least the next several years. Following the Berlin Airlift and the Korean War, the USAF realized the need for a new transport with a large unobstructed cargo space, turboprop engines for better performance, and rough field operational capability. The winner of the USAF design competition was the Lockheed C-130. With a high-mounted wing to maximize cargo space and a hydraulically-operated ramp at the rear of the fuselage, the C-130 set the standard layout for all future cargo aircraft. The initial C-130A was so popular with pilots and capable of such exceptional performance that the basic airframe was soon adapted to numerous other tasks. Many early models were converted to AC-130 aerial gunships equipped with large-caliber guns and heavy armor. Other applications in which the C-130 has found success include search-and-rescue, airborne refueling, airborne early warning, and Special Forces transport. Over two thousand C-130 aircraft have been built in numerous variants, and over forty models and variants of the Hercules serve with more than fifty nations.

The C-130B-II is an early variant of the workhorse Lockheed C-130 Hercules used for military aerial reconnaissance and electronic intelligence gathering (ELINT). The first of a total of two hundred and forty C-130Bs entered production in 1958, with the first aircraft entering service in June of 1959, and the last delivery happening in March, 1963. The C-130B introduced upgraded Allison T56-A-7 turboprops whilst carrying additional fuel in the wings and mounting a strengthened landing gear. From the above total, thirteen of the B models were taken and converted for Electronic Intelligence and Signals Intelligence (ELINT/SIGINT) duties and known formally as the C-130B-II, but typically called by its unofficial designation of RC-130B. *Big Safari*, the USAF's program office responsible for modification and sustainment of special mission aircraft, had established Detachment 2 at the E Systems company to convert C-130A aircraft for SIGINT duties under the *Sun Valley* program to replace aging *Sun Valley* and *Smog Count* RB-50Es. This was followed by the conversion of C-130B aircraft under the *Sun Valley II/Rivet* Program which in turn replaced EB-50G ELINT aircraft. The C-130B-II was a very high tech aircraft for its day, and carried up to nine specialists to operate the intelligence and communications equipment. The mission personnel onboard operated the various crypto equipment along with the HF/VHF/UHF/SHF radio intercept equipment. Unlike other B models, the RC-130B carried external wing tanks that were a little bigger in circumference than the regular Hercules external tanks; these tanks on the RC-130 not only contained a well with fuel, but also VHF & UHF Preamps with antennas mounted on the inside of the "tank." There was reportedly also a few A/C which had a DF system that was lowered out of the bottom of the A/C.

Unlike the earlier C-130A-II aircraft which operated in both the Far East and in Europe, the C-130B-II operated exclusively in the Far East out of Yokota AB. Here it performed its duties from 1961 till 1972, flying along the Vietnamese and Korean borders using long focal length cameras and ELINT equipment to record items of interest. In Vietnam, the 6091st Reconnaissance Squadron (RS) deployed two C-130B-II SIGINT aircraft to Thailand in July of 1964 to fly COMINT missions off the coast of North Vietnam. Originally operating under the mission name *Queen Bee*, the C-130B-II aircraft would orbit over the Gulf of Tonkin to gather information on VPAF air defenses as USAF strike aircraft bombed North Vietnam under *Operation Rolling Thunder*. The original method used to "sanitize" and relay threat warnings derived from these SIGINT birds was deemed too cumbersome and time consuming and seen as a contributing factor in the loss of two F-105 aircraft on 4 April, 1965. The fallout of this incident was overwhelming and within one month the USAF approved the *Queen Bee* crews to provide enemy fighter threat warning direct to the strike aircraft over UHF radio on the "Guard" channel; by August the warnings were expanded to include information on active VPAF SA-2 batteries. In mid-September of 1964 two additional C-130B-II aircraft arrived in theater, allowing the 6091st to fly a total of two missions per day under the new mission name of *Silver Dawn*. *Silver Dawn* SIGINT support continued unabated for the next two years with the C-130B-II mission crews refining threat warning format and procedures. At the same time USAF EC-121D aircrews were also brought into the threat reporting chain with the command and control crews relaying threat warning from ground-based SIGINT sites to strike aircraft. As the air war dragged on, the number of strike aircraft over North Vietnam increased as did the amount of threat reporting. Soon the warning information on

the Guard channel was starting to lose its effectiveness as fighter crews repeated threats they saw, EC-121D crews relayed ground-based SIGINT, and C-130B-II crews voiced their own intelligence. It was not uncommon for a single SAM incident to appear as multiple active missile batteries because of the duplicative nature of the Guard channel reporting net, a problem that was never fully fixed.

In operations other than Vietnam these aircraft would sometimes operate in conjunction with other planes, which would fly towards targeted air space forcing the activation of air defense radars. The RC-130s would stand off and collect the resultant emissions, allowing analysts to build a picture of the air defenses from the recorded data. At other times the aircraft would fly alone and unescorted along the peripheries of target countries, where they could be subject to interception and harassment by enemy fighters. These missions sometimes involved more than harassment as exemplified by the shoot down of a C-130A-II on 2 Sept, 1958. The aircraft was downed over Soviet Armenia as it prepared for missions along the coast of the Soviet Union. During a route survey before the operational missions began, the aircraft accidentally crossed the Turkish border into Armenia; there are no distinguishing visual landmarks to show the Armenian border, so the aircrew lost track of their position and inadvertently crossed over the border. Four Soviet MiG-17s intercepted the aircraft, flying between the RC-130 and the Turkish border and fired shots across its nose, signifying the aircraft should land. The RC-130 turned back toward friendly airspace instead of landing in Soviet territory and was shot down by the MiG-17s. It crashed near the village of Sasnashen, thirty four miles northwest of Armenia's capital, Yerevan, and the seventeen crewmembers, all based at Rhein-Main Air Base, Germany, but on temporary duty to Incirlik Air Base, Turkey, perished in the crash.

Our subject is shown as it appeared at Udorn RTAFB on 17 Oct 1971 whilst assigned to the 556th Reconnaissance Squadron, which was the redesignated 6091st RS; the squadron not only operated the C-130B-II but also unmanned drones over North Vietnam at this time. This airframe was returned to a regular C-130B configuration, and served with the 706th TAS and the 442nd TAW before being transferred to the Bolivian Air Force. It crashed on 31 Dec, 1994 during a three engine takeoff from Trinidad, Bolivia.

Notes for modelers: The C-130B can be modeled from available C-130E kits, which usually depict the shorter Dash-7 engine nacelles. The main differences that will be noticeable to make a B model from the E is to add a cargo door on the forward left side of the fuselage; although they were closed and locked and metal strips were riveted over the door frame so it could not come open in flight and because nearly the entire length of the interior had a crew box with all of the reconnaissance operator's stations scattered through it. Unlike standard B models, the C-130B-II had outboard external wing tanks as discussed above. It would appear that these aircraft did not have the capability to lower the rear ramp, since there was reportedly a maintenance station and a lavatory built on the closed cargo ramp. Despite being a special mission aircraft, the antenna fit of this aircraft was not notably different from conventional mission C-130's, there was an angled blade antenna on the centerline of the upper fuselage spine, even with the aft end of the port side cargo door, a short "pipe" antenna below the tail, and an extra wire antenna running to the vertical tail. The modeler will find the following website handy for information on the C-130: www.herkybirds.com. In addition, another useful resource is Volume Six (Summer 1991) of *World Air Power Journal*, which breaks down the various configurations of the early C-130 models, including the C-130B-II.

Paint Keys: The overall exterior was standard SEA camo with a black nose radome. The basic flight deck color would have been the standard colors of Seafoam Green (FS#34440) including the control yokes, floor, walls, and roof; the yoke control wheels were semi-gloss black though, and the main instrument panel was Dark Gull Gray (FS #36231). The floor foot wells in front of the rudder pedals were covered in a dark tan non-skid material close to FS #33446. The overhead consoles, instrument panel coaming, and the flight deck seats were matte black with black seat cushions and back pads and black leather head and arm rests for the pilot, copilot and FE. The navigator and load master's seats were Seafoam Green; lap belts for all seats were gray green and shoulder harnesses were a very light gray/dirty white color. The basic color of the cargo compartment was also Seafoam Green but with much of it covered with Dark Gull Gray quilted padding, the floor was matte aluminum, and most of it was covered in matte black anti-skid strips. The wheel wells and gear door interiors were ADC Gray (FS #16473), while the landing gear was semi-gloss white and the wheels matte aluminum lacquer. Prop hubs, blade roots, and the leading edges of the prop blade (but only for the inner half of the blade length) were matte black, with the rest of the blade in dull natural metal, and without the usual tip stripes.

## Kits & Bits:

RA-5C – Airfix, Hasegawa, Trumpeter

U-2R – Rareplanes, Special Hobby

RF-101 – Hasegawa

SR-71 – Academy, Hasegawa, Italeri, Revell-Monogram, Testors

RF-4C – Esci, Fujimi, Hasegawa, Revell

C-130 – Airfix, Esci, Italeri/Testors