F-84F/RF-84F THUNDERSTREAK — THUNDERFLASH

F-84F/RF-84F Thunderstreak – Thunderflash

An 81st Ftr.Bmr.Wg F-84F demonstrates a JATO take off from RAF. Bentwaters, Suffolk – 10 December 1954.

F-84F/RF-84F Thunderstreak – Thunderflash

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F-84F, 51-9361 is the 27th Strategic Fighter Wing Commander's aircraft. Wearing triple colours, the Wing was based at Bergstrom AFB, Texas, 1956.

Once airborne, the rack would be jettisoned immediately and a combat or closed pattern would be flown to jettison the rack and bottles in a designated area.

The F-84F/RF-84F was primarily a single seat fighter bomber or reconnaissance aircraft of nearly total aluminium construction.

The fuselage was made up of two sections, with the first half consisting of the cockpit, pilot tube, four M3 0.5 calibre machine guns and ammunition boxes, with access to these being via a hatch lifted from just in front of the cockpit in the direction of the nose.

The oxygen bottles and batteries were also to be found in this front section, together with the LABS bombing computer, while the intake suction relief doors were on the lower fuselage below the cockpit area.

The cockpit consisted of the front instrument panel with an A-4 radar mounted gun sight. There was an auxiliary panel on either side of the main panel, the left one having the landing gear controls, landing flaps, controls for the JATO bottles operation, the external stores and the engine starter.

The right panel had the battery controls, voltmeter, cabin altimeter, generator, engine crank and starter and also the instrument power. Running back from this were the left and right console panels.

The left panel contained the throttle, armament switches, radios, canopy operation, flight controls, trim for the rudder fuel system including air refuelling, gun arming, gun camera, jettisoning of the pylons, JATO bottles operation and anti-G suit.

The right side contained the pressurisation system, switches for the lights, circuit breaker panel, the AN/ARN-6 radio compass and oxygen system, de-froster and map case. Modifications were made to the cockpits when later batches/models of the aircraft were produced.

A Republic RAC 37F84510 series ejection seat was fitted, although some European NATO units also used Martin Baker seats.

The clamshell canopy lifted up and back for access to the cockpit with two struts, one on each side of the cockpit frame, to help support it when in the open position and one larger main strut at the rear which retracted flush into the fuselage when in the closed position.

A fuel tank was mounted in the lower fuselage below the cockpit area containing 124 gallons with the main tank situated directly behind the cockpit with a capacity of 200 gallons. This tank was positioned in front of the fuselage break point where the rear fuselage could be removed to expose the engine.

The wings, which were swept back at an angle of 40 degrees, were of the conventional spars and rib construction and contained fuel tanks, with the left wing holding 109 gallons and the right wing tank containing 140 gallons. A 0.50 calibre Colt Browning M-3 machine gun was mounted in the root of each wing and the port wing contained the Flying Boom in-flight refuelling receptacle, which opened and closed hydraulically. When in the closed position it remained flush with the wing surface.

At the rear of the wings was the plain flap construction (inner) with the spoilers just in front of the flaps. The outer aileron construction had adjustable trim tabs fitted.

The tricycle undercarriage was wide-tracked and had a rearward retracting nose wheel with twin nose wheel doors. The main undercarriage wheels retracted inwards into the wing with inner doors that operated only during the passage of raising and lowering the wheel legs.

There were two locations under each wing for the attachment of pylons that supported the drop tanks and/or armament. The inner pylons were mounted between the main undercarriage inner wheel well door and the fuselage. The starboard pylon was permanent and normally held a 450 gallon drop tank. The port side could also be configured to this requirement but a specially designed pylon was sometimes attached to carry a Mk.7 nuclear store: this was notable particularly in the early years of the aircraft's service with the USAF.

This did not apply to the European NATO F-84F aircraft, as they were not equipped to carry nuclear weapons: therefore they were usually to be seen with two 450 gallon drop tanks.

The outer pylons would take a 230 gallon tank each but sometimes smaller tanks were also carried on the inboard pylons.

A large and varied selection of stores could be carried. The six machine guns had 300 rounds each, while the four under-wing pylons could be used to carry 2000 and 1000 lb bombs and up to 24 x 5 inch HVARS. There were also attachment points on the outside of the outer wing pylons enabling rocket tubes to be carried for 2.75 rockets and other items such as fire bombs, CBU-1 and -2 cluster bombs and land mines.

The rear fuselage break point was just ahead of the main wing flaps and contained

the engine, auto-pilot equipment, the radio compass loop antenna, APW-11 radar and the command radio equipment.

On each side of the rear section were the perforated air brakes which limited buffeting at high speed and deceleration.

The air brakes on early marks of F-84F were in the same position as the later type, but they extended further down the fuselage and had larger perforations in different positions, a feature which was to vary slightly throughout the production of the aeroplane.

The tail was swept back to 40º with conventional horizontal stabilisers, but from the introduction of the block F-84F-25-RE, this was changed to a single-powered slab surface.

A fairing was added to the underside of the rear fuselage at the tail cone point: this housed a 16 ft-diameter drag chute stored in a canvas bag with an aluminium container and was deployed when landing to reduce the landing roll. A pair of spring-loaded clamshell doors was activated electrically when the pilot pulled a 'T' handle in the cockpit.

The second F-84F, 51-1345, became an RF-84F, reconnaissance version and now had the engine intakes in the wing roots with each containing two 0.5 calibre Colt Browning M3 machine guns positioned in the lower lip. The aircraft's nose was lengthened to facilitate the camera installation required for daytime and night photography.

The lengthened nose of the RF-84F contained six cameras for day and night work, positioned in the oblique, the vertical and mid-high left and right oblique, left oblique and prime vertical positions. There were a variety of cameras in use and the type of camera and placement depended upon the mission flown. The most common day camera used was the Fairchild K-22A with a variety of lenses from 6 inch to 36 inch. The K-38 was extensively used in the vertical position for daylight photography and for night missions the K-37 camera was used. The RF-84F was the first tactical reconnaissance plane to use the trimetrogen aircraft camera installation for horizon-to-horizon photography. Another first for the Thunderflash was the incorporation of a computer control system based on light, speed and altitude which adjusted the camera settings to produce photos with greater delineation.

Twenty-five RF-84F aircraft were modified to the RF-84K series. These aircraft were to take part in the FICON (Fighter Conveyor) programme. Initially, the McDonnell XF-85 'Goblin', 46-6523 was designed as a parasite fighter to be carried by a B-36 mothership. However, after tests had been carried out with this aircraft in a B-29, it was abandoned for use with a B-36 and its place taken by an F-84E of the 31st Fighter Group. Next came the YF-84F, This was basically a Thunderjet fuselage with swept wings, tail and horizontal stabilizers. This concept was to give the B-36 intercontinental bomber its own fighter escort.

Tests were conducted with this aircraft whereby it was retrieved by the B-36 utilizing a trapeze system when the aircraft hooked up to the trapeze assembly and was lifted into the bomb bay of the mothership and lowered again for flight. These tests were

An RF-84K ,52-7266 of the 91st Strategic Reconnaissance Squadron, 71st Strategic Reconnaissance Wing is hooked up to the trapeze on a GRB-36D s/n 49-2692 of the 99th Bomber Wing.

completed in May 1952, however, the emphasis for the fighter escort role diminished, subsequently to be replaced by the strategic reconnaissance role involving the RF-84F, but for this certain modifications were necessary.

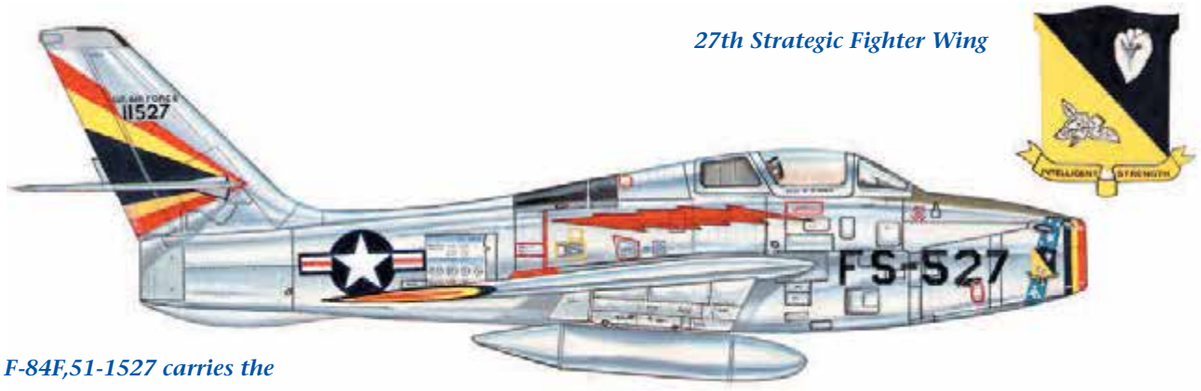
The main modification required was a 23-degree anhedral on the horizontal tail, thus enabling the tail to be retracted further into the B-36 bomb bay. Another modification was the adaption of a retractable nose hook, situated forward of the cockpit to enable the fighter to latch onto the trapeze mechanism. These modifications had been tested on YF-84F, 49-2430, and 25 RF-84F aircraft were modified to this standard and designated RF-84Ks.

Ten RB-36Ds were converted to GRB-36F configuration that involved the removal of the bomb bay doors, these being replaced with fairings that opened and closed with the operation of the trapeze.

The GRB-36F aircraft were assigned to the 99th Strategic Reconaissance Wing and based at Fairchild AFB, Washington, while the RF-84Ks were serving with the 91st Strategic Reconaissance Wing at Larson AFB, Washington. However, during the tests some problems were encountered when operating with the trapeze mechanism and the entire concept was to last just under a year before it was decided to terminate the programme.

Nevertheless, the GRB-36 was able to carry the RF-84K for some 2,810 miles while the RF-84K had an added radius of some 1,180 miles and the entire programme must be considered a feat in aviation engineering and go into the annals of aviation history.

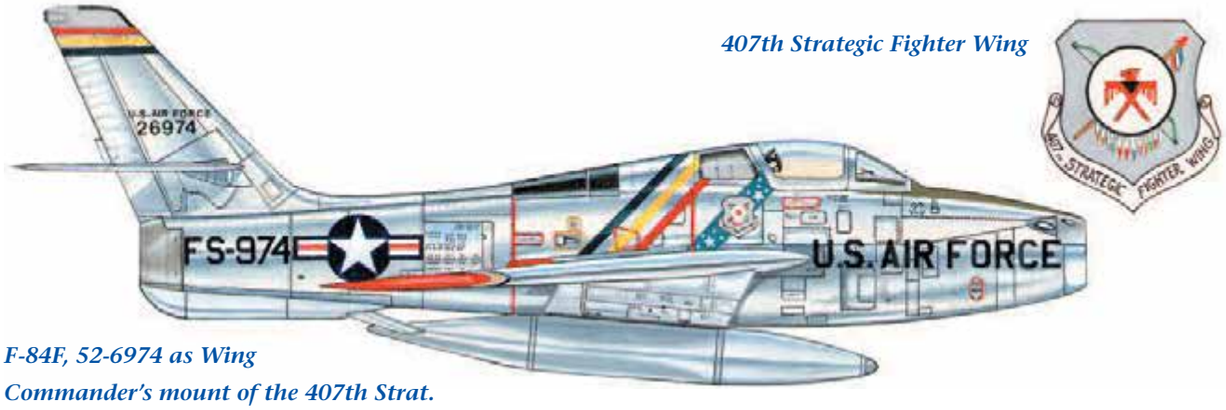
27th Strategic Fighter Wing



F-84F,51-1527 carries the 27th Strategic Fighter wing's markings when attending the SAC Fighter Competiton ' Operation Left Hook', Oct.1956.

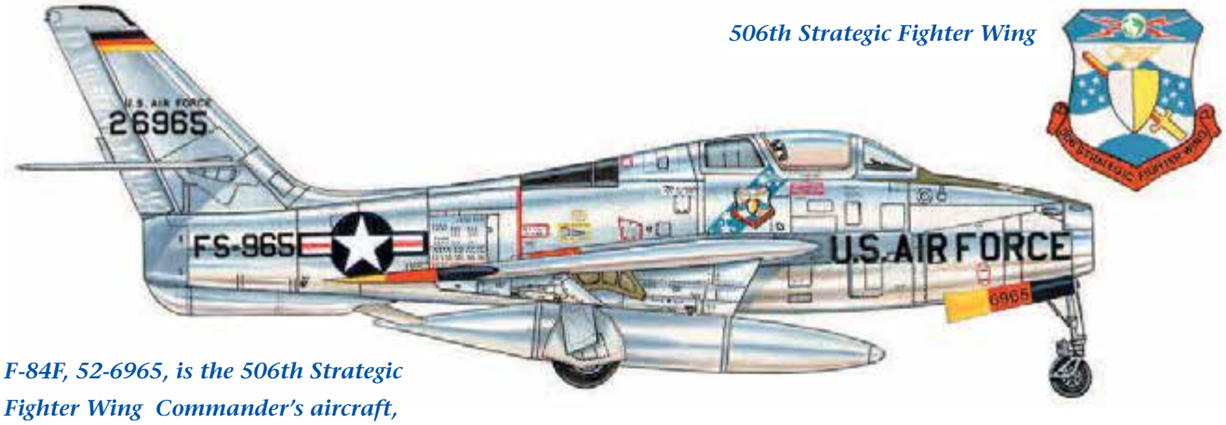
RF-84F, 51-1274 is a 432nd Tactical Reconnaissance Wing aircraft and carries additional Red tail markings when seen on exercise in Alaska, 1957.

407th Strategic Fighter Wing



F-84F, 52-6974 as Wing Commander's mount of the 407th Strat. Ftr. Wg, based at Great Falls AFB, Montana. C. 1956.

506th Strategic Fighter Wing



F-84F, 52-6965, is the 506th Strategic Fighter Wing Commander's aircraft, based at Tinker AFB,Oklahoma.c.1956.

Maine, equipped with the 457th, 458th and 462nd squadrons.

The final Wing was that of the 508th which was based at Turner AFB, Georgia, and contained the 466th, 467th and 468th squadrons.

SAC's reconnaissance unit was the 71st Wing operating from Larson AFB, Washington and consisted of the 25th, 82nd and 91st squadrons. The 25th and 82nd were equipped with the RF-84F and the 91st was to operate the RF-84Ks with the most notable outward difference being the drooped horizontal stabilizers, to enable these aircraft to operate in conjunction with the GRB-36F 'FICON' service.

In terms of Wing and Squadron markings, unlike the earlier F-84G units within SAC, which had carried some colourful markings, the SAC now distanced itself from this policy. The squadron markings were reduced in such a manner that only a coloured fin stripe was usually carried.

However, gradually the SAC star spangled fuselage sash was introduced and the SAC Insignia was placed onto the port side of the fuselage with the Wing insignia appearing on the starboard side. The commanders' aircraft were sometimes to be seen with the triple colours of the squadrons adorning the tail, wingtips and nose intake. Nevertheless, this did not apply to all of the units and at times it was only the fin stripe that was predominant.

This 432nd Tactical Reconnaissance Wing aircraft with its Red and Blue tail markings is also carrying bands painted chordwise across the wings: the colour is not known, but thought to be Green for the 20th Squadron.

12th Strategic Fighter Wing

The 12th Strategic Fighter Wing squadrons carried a band around the intake, a diagonal tail stripe incorporating a shield with the particular assigned aircraft number imposed, wingtips and nose-wheel doors, all painted in the appropriate squadron colour and these were 559th: red, 560th: yellow, and 561st: blue.

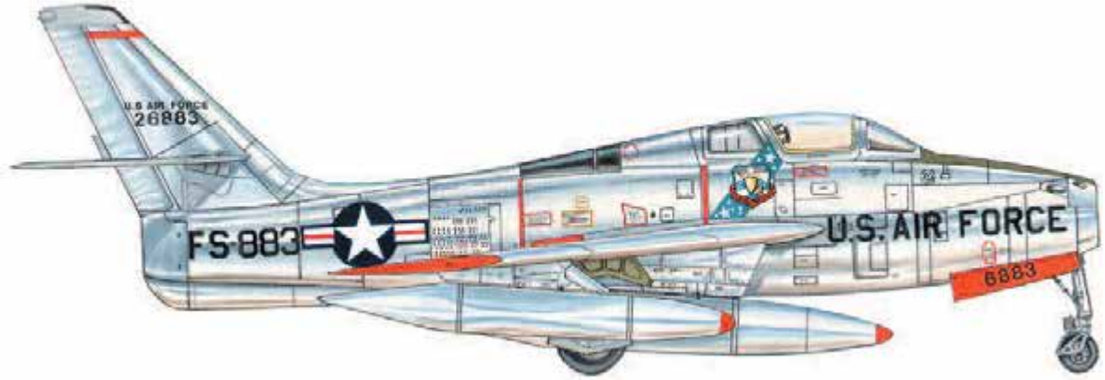
The Wing Commander's aircraft was colourful and carried the triple colours of the squadrons together with the number '1' in the tail shield. Other aircraft of the Wing also had numbers applied in the same position.

27th Strategic Fighter Wing

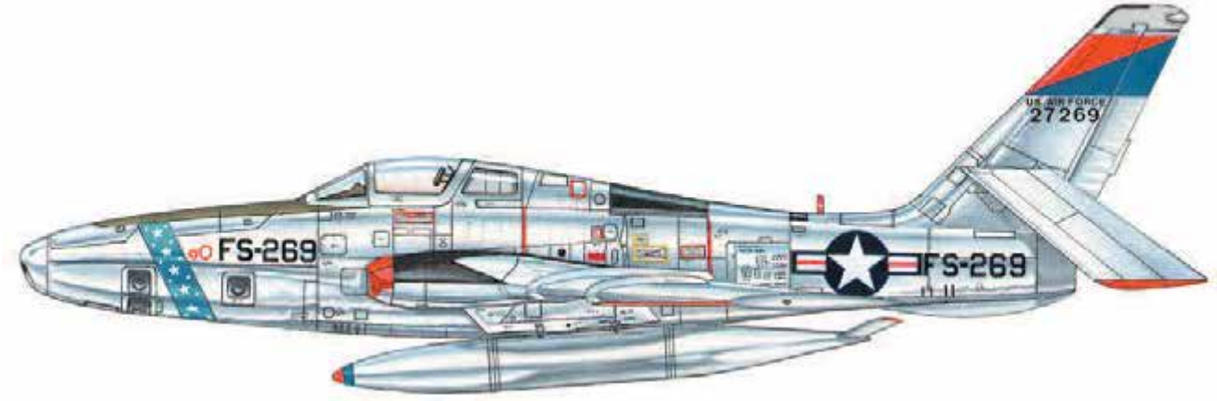
Next came the 27th Strategic Fighter Wing's F-84F aircraft which were adorned with a coloured intake band, wingtip colours and tail stripe in the appropriate squadron colours.

The colours were 522nd: red, 523rd: yellow, and 524th: blue. The Wing Commander, Col. R. Ellis, piloted aircraft serial 51-9361 and flew to RAF Sturtgate, Lincolnshire in 1955 when the unit deployed some 75 aircraft to the base.

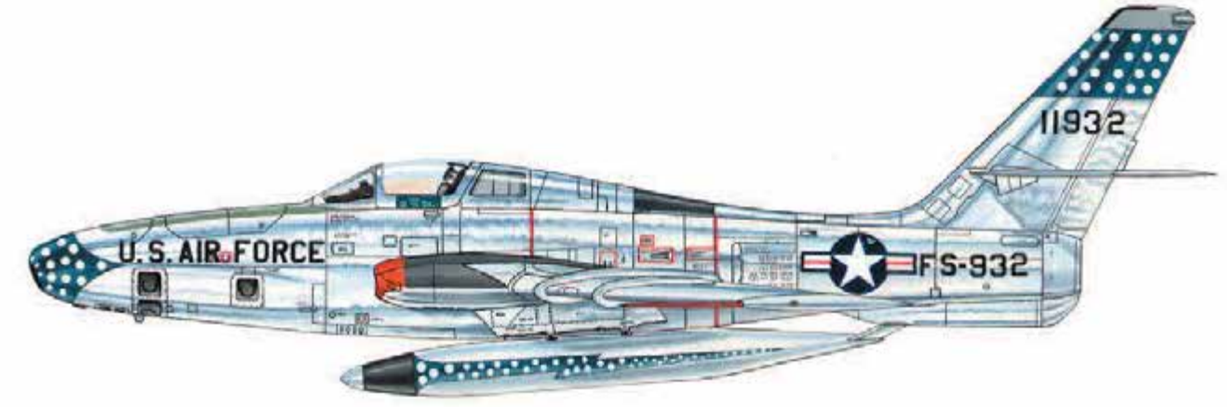
The Commander's aircraft was painted in the triple colours of the Wing and Col. Ellis was assigned to the 522nd Squadron which was responsible for the maintenance of his aircraft.



F-84F, 52-6883 serves with the 457th Strategic Fighter Squadron, 506th Strategic Fighter Wing, also at Tinker AFB, c.1956.



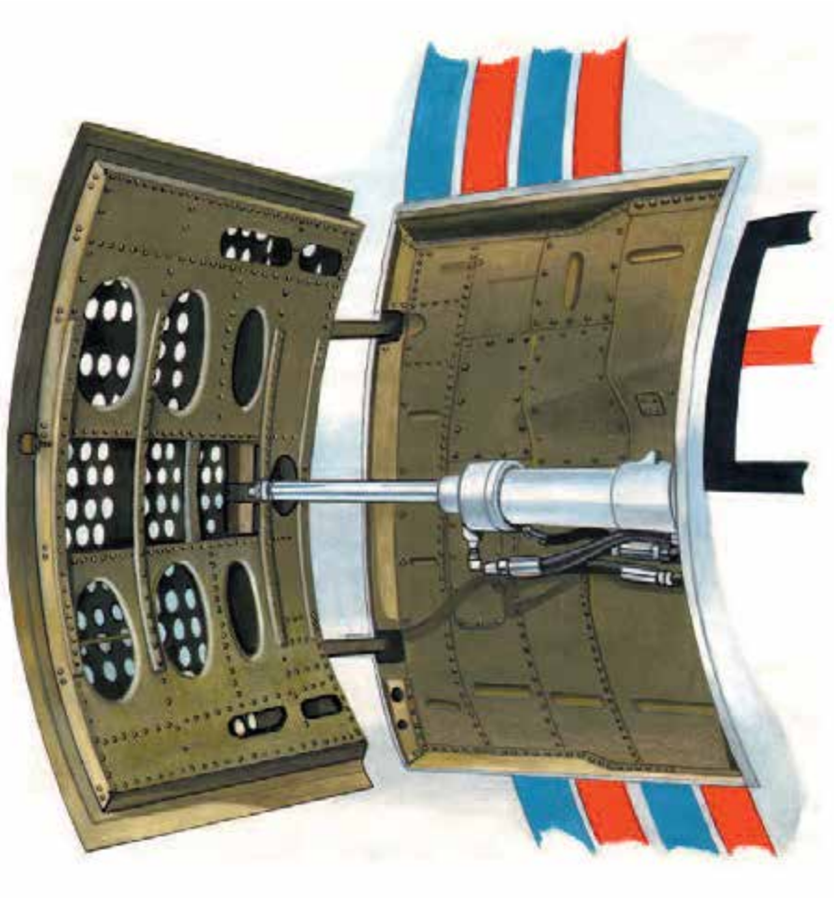
This RF-84K, 52-7269, is assigned to the 91st Strategic Reconnaissance Squadron, 71st Strategic Reconnaissance Wing, operating from Larson AFB, Washington, c.1956.



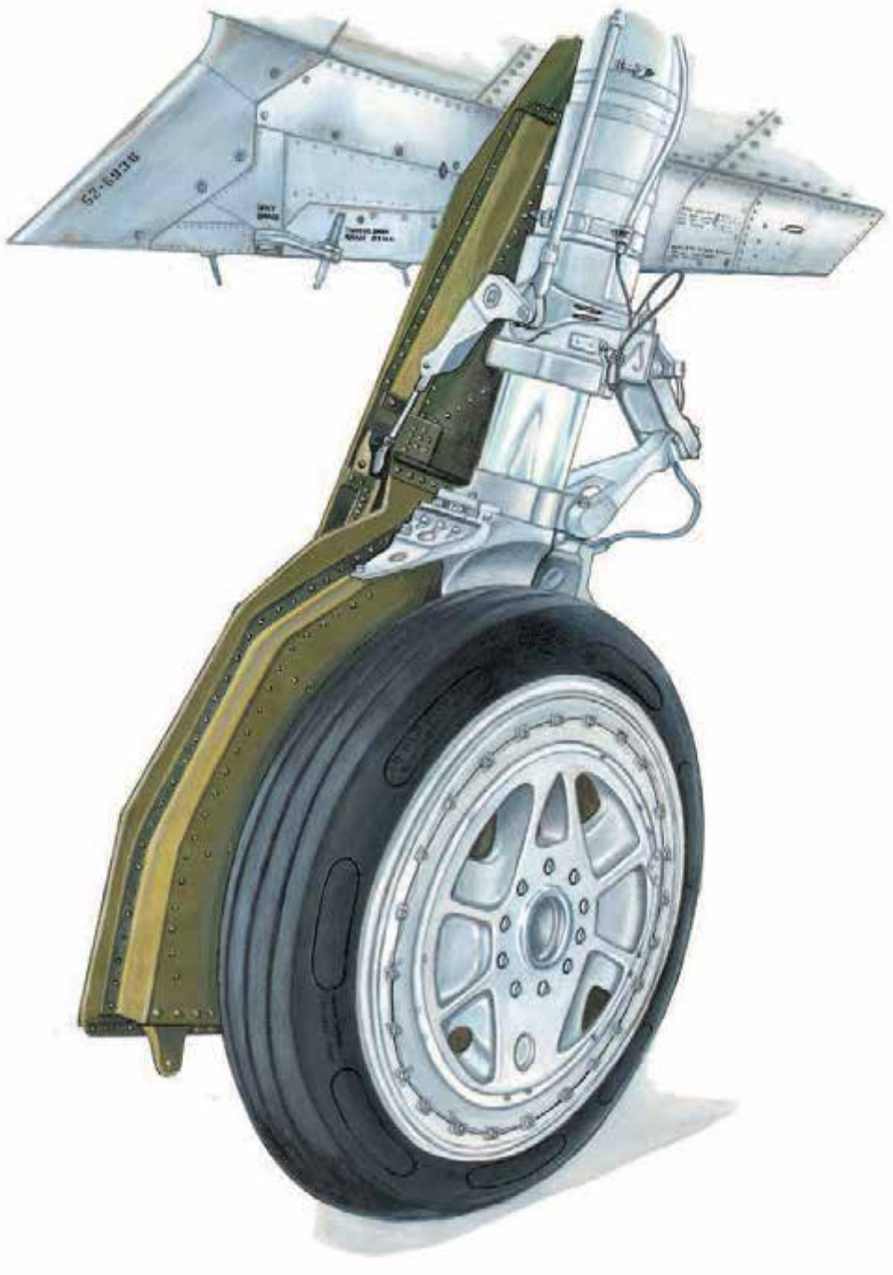
RF-84F, 51-1932 is from a Pacific Air Forces squadron, the 45th Tactical Reconnaissance Squadron based at Misawa AB, Japan, c.1956.

F-84F detail

F-84F nose wheel leg and doors.



The later style air brakes.



Inner main undercarriage leg.

Outer side, showing the door arrangement.

The F-84F cockpit which was subsequently modified with different batches coming off the lines.

Wing	*Sqdn*	*Colour*	*Base*	*Date*
	91	blue	Bentwaters, Suffolk,	
	92	yellow	Manston, Kent	1955.
			Bentwaters, Suffolk,	1958.

Pacific Air Forces

Wing	*Sqdn*	*Colour*	*Base*	*Date*
67 TRW	15	yellow/black	Yakota, Japan	1955
			Kadena, Okinawa	1958
	45	blue/white	Misawa, Japan	1955-59

Air National Guard

112 FG	147	black/yellow	Pennsylvania	1955-58
126 FIW	108	red	Illinois	1955-57
127 TRG	107	red	Michigan	1958-71
131 TFG	110	red	Missouri	1957-62

European Air Forces

A/C	*Unit*	*Sqdn*	*Colour*	*Base*	*Date*
F-84F	2 Wing	1	black	Florennes	1955-72
"	"	2	red	"	1955-71
"	"	3	green	"	1955-60
(No.2 Sqdn, Bierset, 1971)					
F-84F	10 Wing	23	red/white	Kleine Brogel.	1955-64
"	"	27	blue/white	"	" "
"	"	31	yellow/black	"	" "
RF-84F		42	(no colour)	Wahn, Germany	1955/56-57
				Brustem, Belgium	6/57 – 10/60
				Beauvechain	10/60 – 4/63
				Bierset	4/63 – 1971

France

A/C	*Unit*	*Sqdn*	*Colour*	*Base*	*Date*
F-84F	EC.1	1/1 'Corse':	red	St. Dizier, France	1956-66
"	"	2/1 'Morvan'	yellow	" "	" "
"	"	3/1 'Argonne'	green	" "	" "
(3/1 lost an asset Nov. 1957.)					
F-84F	EC.3	1/3 'Navarre'	mixed colours.	Reims, France	1955-58
"	"	2/3 'Champagne'	(unknown)		
"	"	3/3 'Ardennes'	(unknown)		
F-84F	EC.4	1/4 'Dauphine'	red	Bremgarten, Germany	1957-66
"	"	2/4 'Layfayette'	green	Luxeuil, France	
F-84F	EC.9	1/9 'Limousin'	red/yellow	Metz, France	1955-65
		2/9 'Auvergne'	black/yellow	Luxeuil, France	
F-84F	EC.11	1/11 'Roussillon'	red	Luxeuil, France	
		(possibly for all sqdns)			1956-58
		2/11 'Vosges'			
		3/11 'Jura'			
(3/11 lost an asset Nov. 1957.)					
RF-84F	ER.33	1/33 'Belfort'	red	Lahr, Germany.	1955
				Luxeuil, France	1959-67
		2/33 'Savoie'	black	Lahr, Germany	1955
				Strasbourg, France	1960-64
		3/33 'Moselle'	red	Lahr, Germany	1955-59
				Strasbourg, France	1959-60

Germany

All bases listed are in Germany

A/C	*Unit*	*Sqdn*	*Colour*	*Base*	*Date*
F-84F	WS-30 (later Jabo G.33)			Erding	1956-57
	Jabo G.31			Buchel/Norvenich	1958-62
	Jabo G.32			Lechfield	1958-66
	Jabo G.33		red/yellow	Buchel,	1958-64
			(possibly Flight/Sqdn colours)		
	Jabo G.34		red/white	Memmingen	1959-66
	Jabo G.35			Hunsum	1959-65
	Jabo G36		red/white	Rheine-Hopsten	1961-66

ABOUT THE AUTHOR, ‘ROBBIE’ ROBINSON

Robert (Robbie) Robinson is a former RAF Serviceman whose lifelong interest in military aviation began in Cornwall during 1946. Two RAF Airfields were situated near the small Cornish town where he lived. They were RAF St. Mawgan and RAF St. Eval and were Coastal Command airfields operating the Avro Lancasters at that time.

RAF St. Eval was also a Master Diversion Station and attracted many different types of aircraft from the United States and Europe. In particular the Boeing B-29 and B-50 Super Fortress aircraft, which were on 90 day deployments to RAF Airfields because of the Cold War and were frequent visitors to St. Eval.

In 1955, whilst he was at a Battle of Britain display in Cornwall, Robbie was very impressed by a flypast of USAF Thunderjets. They were from the 20 Fighter Bomber Wing stationed at RAF Wethersfield in Essex, which was one of the first Fighter Wings based in England. This was an interesting decade for ‘Robbie’ and in 1959 he was stationed in East Anglia. The USAF had most of its airfields here and his enthusiasm gathered momentum. Many NATO Fighters from the European Continent would visit the stations during week days and also appearing at the air shows. This enabled Robbie to see various aircraft in many guises with colourful badges and squadron markings and his interest and art work started to grow and develop.

‘Robby’ is an artist and enjoys researching and illustrating the aircraft in the squadron markings and badges applied to the different types. From the late 1940s to the 1960s, NATO aircraft went through a very colourful period with fighters in particular adorning all styles of design and colours.

Recently he has returned to live in Cornwall and is still very active with his hobby and continues to research the squadron markings and colours. Now a volunteer worker at the Cornwall War Museum at Davidstow Airfield, he adds his artistic ability to painting Crests and Badges for the various sections on display. His other interests include Ornithological art work, especially for the RAF Ornithological Society, illustrating in their journals. He is also displays painting at a Cornish Art Gallery.