



AVIATION NEWS
Classic Aircraft

AVIATION

NEWS
KEY

THE PAST, PRESENT AND FUTURE OF FLIGHT Incorporating **Classic Aircraft**

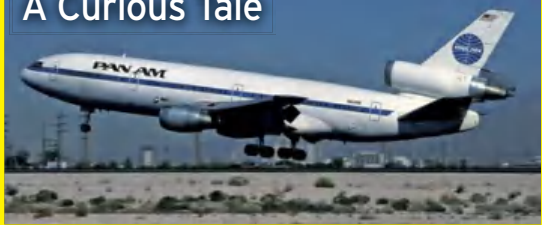
UK £4.50 | MAY 2016 | www.aviation-news.co.uk

STARFIGHTERS AEROSPACE

EXCLUSIVE Second Life for F-104s

PAN AM DC-10s

A Curious Tale



**NEW
SERIES**

**VIEWING
AREA GUIDE**

Salzburg Airport

NATIONAL TREASURE

B-17 Brings History to Life

TALES FROM THE LOGBOOK

Cold War Flashback

VX-30 BLOODHOUNDS

Diversity in Test



WIN

**A DAY WITH THE FIGHTER COLLECTION
& FLYING LEGENDS AIRSHOW TICKETS**

Closing Date:
May 27, 2016



EXCLUSIVE

STARFIGHTERS AEROSPACE

SECOND LIFE FOR F-104s



Luigino Caliaro reports on the growing fleet of Lockheed F-104s flown by Starfighters Aerospace in a variety of roles.

More than 60 years after its first flight the Lockheed F-104 Starfighter is still proving its worth. Starfighters Aerospace (SFA) flies this iconic aircraft supporting activities connected with research and development in air and space flight. Indeed, appropriately for an aircraft with a name referring to objects in the universe, the

Starfighters fly from the same runway that Space Shuttles used to touch down on.

It's not by chance that the company has operated since 2007 from NASA's Kennedy Space Center in Florida. Two years later it concluded a special deal with NASA, the Space Act Agreement, to operate aircraft for the global commercial space sector and the scientific community.

Aviation News met Rick Svetkoff, Starfighters Aerospace founder and CEO, at the large hangar which houses the company's F-104s. "SFA began its activities as Starfighters Inc, with the aim of restoring and operating three CF-104s for display on the American airshow circuit," he explained.

"In the 1990s our Starfighters were highly appreciated guests at numerous airshows



before the start of the reduction in our participation, which came about because of interesting developments in our activities.

“In fact, because of the particular performance characteristics of the Starfighter, our aircraft have been increasingly involved over the last decade in research activities and as chase aircraft within private industry and government

Above: **A Starfighter outside the hangar at the Kennedy Space Center that is used by the company.** Moreno Aguiari

Main photo: **One of the fleet of F-104s flown by Starfighters Aerospace.** All photos Luigino Caliaro except where stated

programmes – as well as being used as flying targets or simulating ballistic missiles in military exercises where detection and

defence systems are being evaluated.”

“Our principal activity is focused on the defence research and development sector, albeit that at the same time we’re developing activities specific to training and research in the field of sub-orbital flight. We also developed, with the DOD [Department of Defense], many training programmes, including for electronic warfare, air-to-air ▶



Left: One of the company's Starfighters is painted black and carries the name of Dutch firm KANON.

Below: The original scheme worn by the company's F-104s when the Starfighters display team was performing (two of the fleet retain this livery). Some of the infrastructure for what was the Shuttle Landing Facility at the Kennedy Space Center can be seen on the right. NASA/Kim Shiflett



adversary support, missile defence support and weather alert/surveillance.

"Due to the constant increase in activity in these sectors, some years ago we realised our three original Starfighters were not sufficient to respond to the demands; also by virtue of their age. So we approached the Aeronautica Militare [AM/Italian Air Force] in Italy, the final operator of the Starfighter, which had only retired its fleet a few years ago, to acquire a few airframes that were still in good flying condition."

After several years of negotiation, SFA managed to acquire four additional F-104s from Italy in 2011. The purchase contract covered the supply of three two-seat TF-104Gs (MM54251, registered in the US as N990SF, MM54258/N991SF and MM54261/

"Standard mix profiles and envelopes are possible at speeds of Mach 2.2 in both level and climbing flight regimes and altitudes in excess of 100,000ft."

N992SF) and single-seat F-104S-ASAM MM6734/N993SF.

Once delivered to the US, the fighters, were subjected to complete airframe and engine overhauls and the installation of the new avionics systems necessary for the scientific work the company had planned. Delays in the certification of some systems, however, meant the 'new' Starfighters' first flights took place only a few months ago – but they should all be operational by the end of the summer.

To best meet the demands of various customer requirements, two of the jets, two-seater N992SF and the single-seater, N993SF, have been painted in a splinter camouflage with different tones of blue and grey. The scheme was designed by



Two of the company's single-seater Starfighters.



Groundcrew work around a Starfighter prior to a sortie. Moreno Aguiari

the Director of Flight Operations, Piercarlo Ciacchi, together with Dario Righetto, Head of Global Communications for Graphistudio in Pordenone, Italy.

Two-seater N990SF retains its original AM all-over grey scheme while N991SF has been painted black and carries on its tail the name of a sponsor, KANON – a Dutch manufacturer of loading equipment which is looking to expand in aerospace.

DISPLAY TEAM

Rick Svetkoff – formerly a US Navy Douglas A-4 Skyhawk pilot and later a Continental Airlines captain on the MD-80, Boeing 757 and 767 – bought the three Starfighters in 1995 to create a demonstration team

while also using them on behalf of civilian and government organisations. They were a two-seat CF-104D 104632 (the original Canadian serial), N104RB, and a pair of single-seat CF-104Gs, 104850/N104RD and 104759/N104RN. They were joined by a fourth aircraft, a two seat F-104B (s/n 901/B and now with the US registration of N65354 though it is not airworthy) that was the personal aircraft of King Hussein of Jordan.

The team was named Starfighters and air display practice started a few months after taking delivery of the jets. At the time the company was based at St Pete-Clearwater International Airport near Tampa, Florida.

The three fighters were originally operated by the Royal Canadian Air Force

and later passed to the Royal Norwegian Air Force. On retirement they were sold onto the US civilian market in the early 1990s. Svetkoff had them painted in a blue and white livery and they retain the team scheme though CF-104D N104RB now also carries KANON titles

Starting in 1997, Svetkoff began to lead a formation of two aircraft; and before its reduction in airshow participation from 2009 the team performed more than 300 displays. He could call on the extensive experience of Piercarlo Ciacchi, a former AM pilot who flew as a team member of the service's famous Frecce Tricolori aerobatic team. Svetkoff's team is no more but one of the Starfighters did display at the 2015 Tico Warbird AirShow held at the nearby Space Coast Regional Airport in Titusville.

Ciacchi has also flown the F-104S-ASAM and Lockheed Martin F-16ADF Fighting Falcon with 18° Gruppo of 37° Stormo and, with thousands of hours of fast jet time, is ideally suited to fly SFA's wide range of missions.

Another very experienced aviator who flies for SFA as its test pilot is Wolfgang Czaia, who served with the Luftwaffe. A graduate of the US Air Force's Test Pilots School at Edwards AFB, California, he took part in the CL-1200 Lancer project (which was later abandoned) developed by Lockheed to replace the Starfighter.

He has more than 28,000 hours and began his operational flying on the Lockheed F-84F Thunderstreak ground-attack fighter before being assigned to the F-104G and was later an instructor on the type.

After moving to the US, he flew with American Airlines, and from 1992 was the test pilot for a Messerschmitt Me 262 ▶

The Starfighter's ability to reach 100,000ft make it ideal to undertake specific test work for the company.





This angle shows off the blue and grey splinter camouflage scheme designed by Starfighters Aerospace's Director of Flight Operations, Piercarlo Ciacchi and Dario Righetto, Head of Global Communications for Graphistudio.



Part of the F-104 fleet owned by Starfighters Aerospace. Note the F-104B at the back that was the personal aircraft of King Hussein of Jordan. It was acquired in a non-airworthy state and is used for spares.

project. He still flies the aircraft, which is owned by the Military Aviation Museum at Virginia Beach.

IMPRESSIVE PERFORMANCE

Piercarlo Ciacchi explained how the F-104 can still be a valid asset for test flying: "Thanks to its exceptional performance in speed, the Starfighter can claim to be the ideal aircraft for missions in the sub-orbital field. Even today the aircraft is still among the select few that can easily and quickly reach Mach 2, with an impressive rate of climb which is almost comparable with that of a missile.

"The Starfighter is capable of reaching 100,000ft in just a few minutes with a 1,500lb payload. Flight above 70,000ft reflects a ballistic profile which enable the F-104 to reach and release payloads at or near 100,000ft for [launching] lower orbit nano and pico satellites.



The company has four two-seat Starfighters in its airworthy fleet.

“The [type] represents an unmatched vehicle for a vast range of missions and, thanks to its high performance and reliability, is simply the best solution to minimise huge investments and longer timeframes of rocket and conventional vectors. For this kind of mission [it] is not necessary to seek out a sophisticated and complex vehicle [such as the F-15 would be], but rather a piloted aircraft that’s an ideal platform for the trials and testing of equipment and sensors for scientific study as well as micro- and macro-gravity experiments.

“Our supersonic jet fleet is well suited to carry payloads located in multiple external stations and internal locations with in-flight live test monitoring from the rear seat. Standard mix profiles and envelopes are possible at speeds of Mach 2.2 in both level and climbing flight regimes and altitudes in excess of 100,000ft.”

He added: “The company is engaged in a varied series of activities linked to the scientific and space sectors and, among the programmes we are engaged in, I would like to highlight our collaboration in the development of the Star Lab programme. This is a revolutionary space vehicle conceived for the launch of small dimension satellites, which utilises the Starfighter as the principal launch stage for the rocket.

“Once deployed, this can climb to an altitude of 120km, and then return to Earth using a special parachute, enabling it to be used again. The rocket, besides its payload of sensors, can also release a small-dimension satellite into space orbit. This potential is particularly interesting as the use of an F-104 as the launch vehicle is much less costly than placing the payload into orbit with [solely] a rocket.

Starfighters Aerospace has been based at the Kennedy Space Center since 2007. The Massive Vehicle Assembly building can be seen in this photo.



The short wings and sleek lines of the Starfighter are evident in this photo. Moreno Aguiari

“...in the not too distant future, and especially if we are able to finalise a series of contracts, we’ll have a requirement to possess additional aircraft.”

“For this reason we’ve been developing a special pressurised flying suit, given that the launch of the Star Lab requires a climb to very high altitudes, up to 20,000m [65,617ft].

“Another particularly important area in which we have been involved is the study of the presence of micro-organisms, potentially harmful to humans and animals, carried in the huge dust clouds which are taken by air currents from Africa as far as the American coast.

“This study, conceived by Professor Andrew Shuerger of the Institute of Food Science and Agriculture at the University of Florida, proposed the use of a specialised pod with a DART [Dust at Altitude Recovery Technology] sensor taken into the air by a Starfighter, which, thanks to the ability to collect air samples at various altitudes, allows the scientists to accurately analyse micro-organisms and pathogens present in the air. ▶





Above: **The unmistakable shape of a Starfighter from below.**

Below: **The impressive capabilities of the Starfighter are being utilised to launch very small satellites into orbit.**

“Besides a further series of classified government programmes, we’re also involved in training activities for commercial space programmes. One, designated Pathfinder, sees the Starfighter simulate very realistically the take-off phase, the climb trajectory and the subsequent return through the atmosphere of a commercial space vehicle, exploiting the exceptional rate of climb and speed performance of the Lockheed fighter.

“A further demonstration of the capability of the Starfighter is also provided by the possibility of offering the experience of zero gravity for a much longer time than in other carriers. In fact, the trajectory developed allows the Starfighter to fly a profile which enables a weightless flight time of one-and-a-half minutes, as opposed to the little over a minute possible with the other aircraft involved in this kind of flying.”

Svetkoff underlined that Starfighters Aerospace, in its few years of activity, “has demonstrated itself to be a valid asset for the support of research and development in both private and government arenas. Thanks to the Starfighter, firms and agencies can utilise a unique platform for a wide range of tests and research in the panorama of aerospace flying.

“Also, I can happily affirm that the outlook for aircraft is even more interesting, to the point that in the not too distant future, and especially if we are able to finalise a series of contracts, we’ll have a requirement to possess additional aircraft.”

It seems that the aircraft once dubbed the ‘missile with a man in it’ has plenty of customers for its impressive capabilities, and will be tearing through the skies for years to come. **AN**

