

DEAD STICK LANDING ON F-104G

February 26, 1970.

Serge Martin, SABCA Chief test pilot, must conduct a test flight following the release from IRAN¹ inspection of a German F-104G. (cn 2044 – code 20+37 – Now displayed at Gatow Berlin Museum)

This Starfighter is normally operated by the *JaboG 34 „Allgäu“*² from Memmingerberg airfield in Bavaria (G)

The ferry flight between the German aerospace society **VFW** (*Vereinigte Flugtechnische Werke*) from Lemwerder (Bremen) and Gosselies has been done at the end of January without problem.



The test flight starts with an acceleration till Mach 2 on a fly path located on a *Bitburg-Florennes* axis, and is followed by a climb (zoom) to 50,000 feet.

After setting the throttle to idle, the descent is initiated with the speedbrakes extended.

Leveling off at 32,000 feet is planned to test the function of the Stick Shaker & Stick Pusher in all configurations.



Let's read now the story narrated by *Serge Martin*, starting when his F-104G reaches 32,000 feet.

Two minutes and thirty seconds later, the flamed out engined Starfighter will be landing on the runway of Chièvres.

¹ IRAN : Inspect & Repair As Necessary

² Jagdbombergeschwader 34 (Fighter-bomber Wing 34)

I was about to reach 32,000 feet when I suddenly heard a *Wind Down* noise. My first diagnostic is a total electrical failure.

I reset both generators... Nothing happens !

I pull the RAT handle to extend the Ram Air Turbine and recover back some electrical as well as hydraulic power.

I'm overflying Maubeuge on heading 340, with an engine that I guess running in Idle, and decide to go back to Gosselies.

I do a cockpit instruments check and find the EGT (*Exhaust Gas Temperature*) indicator showing zero degrees. RPM indicator shows 18 %.



Photo : Collection Serge Benford (Photomontage)

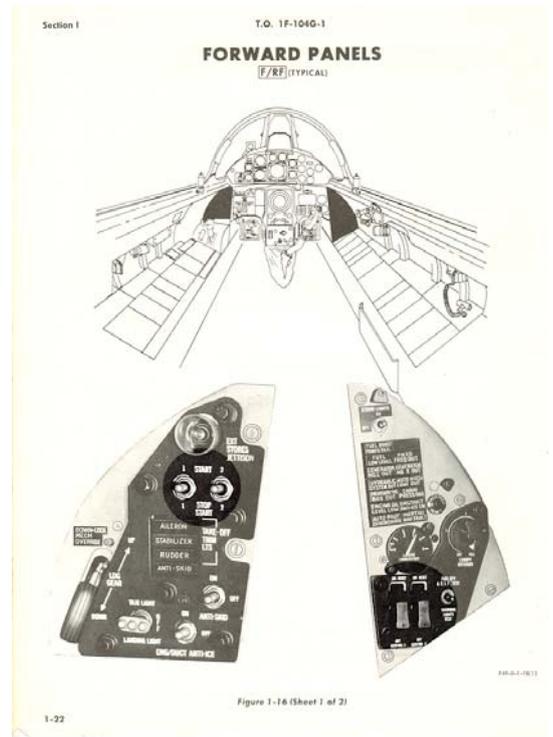


Photo : Serge Benford

The lack of engine reaction following the throttle movement indicates that I'm in fact experiencing an engine flame-out.

I unsuccessfully try to relight the engine by switching-on both Engine START switches while advising *Belga*³ controller that I have a flame-out... he replies instantly.

- Simulated ?
- No, real !

I'm directly informed that I'm not too far away from Chièvres Air Base. The airfield is actually not in sight, being overcasted by a thin layer of altocumulus.

However I've made my decision, I'm going to proceed for a *Forced Landing* ; my altitude is now 15,000 feet, and I'm heading Eastbound.

This is a procedure that I practice regularly during test flights, and even if all the conditions for a dead stick landing are not met, it's worth trying !

The fact this aircraft in particular is equipped with a zero-zero type ejection seat⁴ makes me feel more comfortable to assess the actual situation.

³ *Belga* : Ground Control dedicated to the military air traffic control.

⁴ The German Luftwaffe which used the F-104G as a low level attack plane was equipped with a Martin Baker ejection seat with 0-0 capability. (altitude zero – airspeed zero)

I'm now focused on my airspeed indicator, 245 kts (TAKEOFF Flaps set) while following the instructions given by the controller.

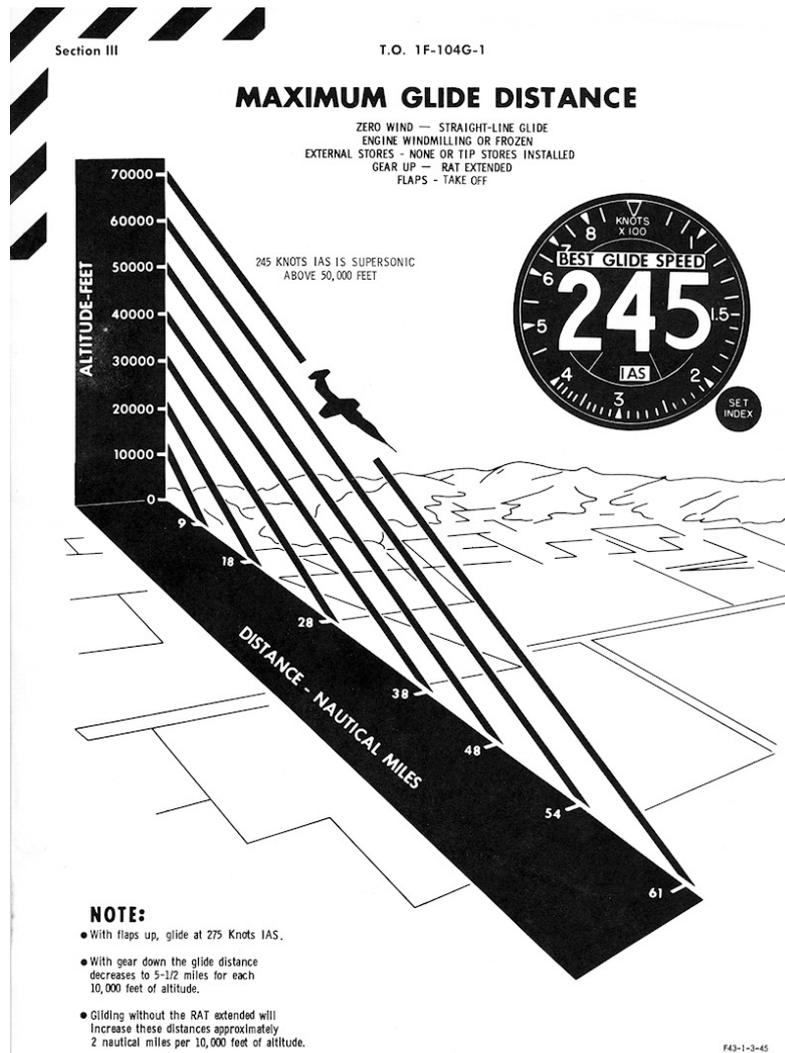


Photo : Serge Bonfond

THROTTLE QUADRANT

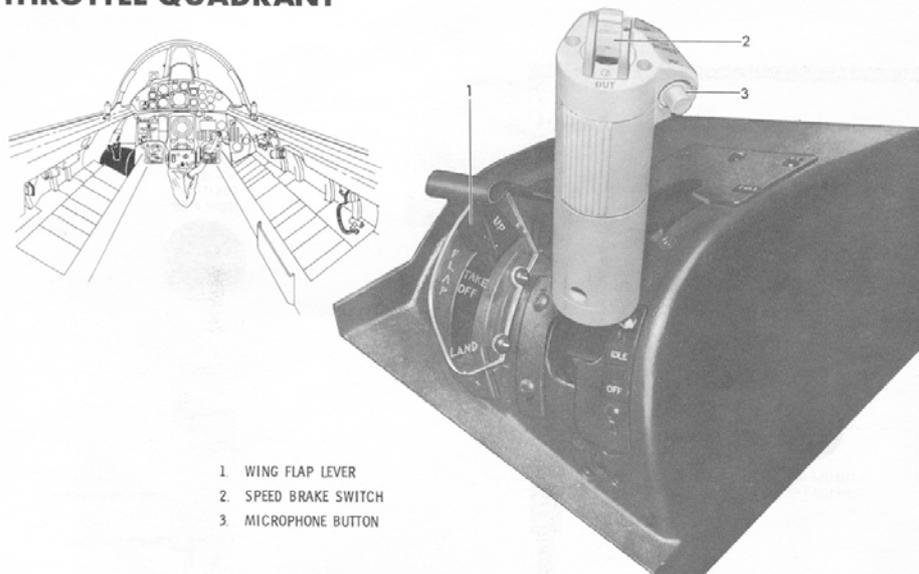


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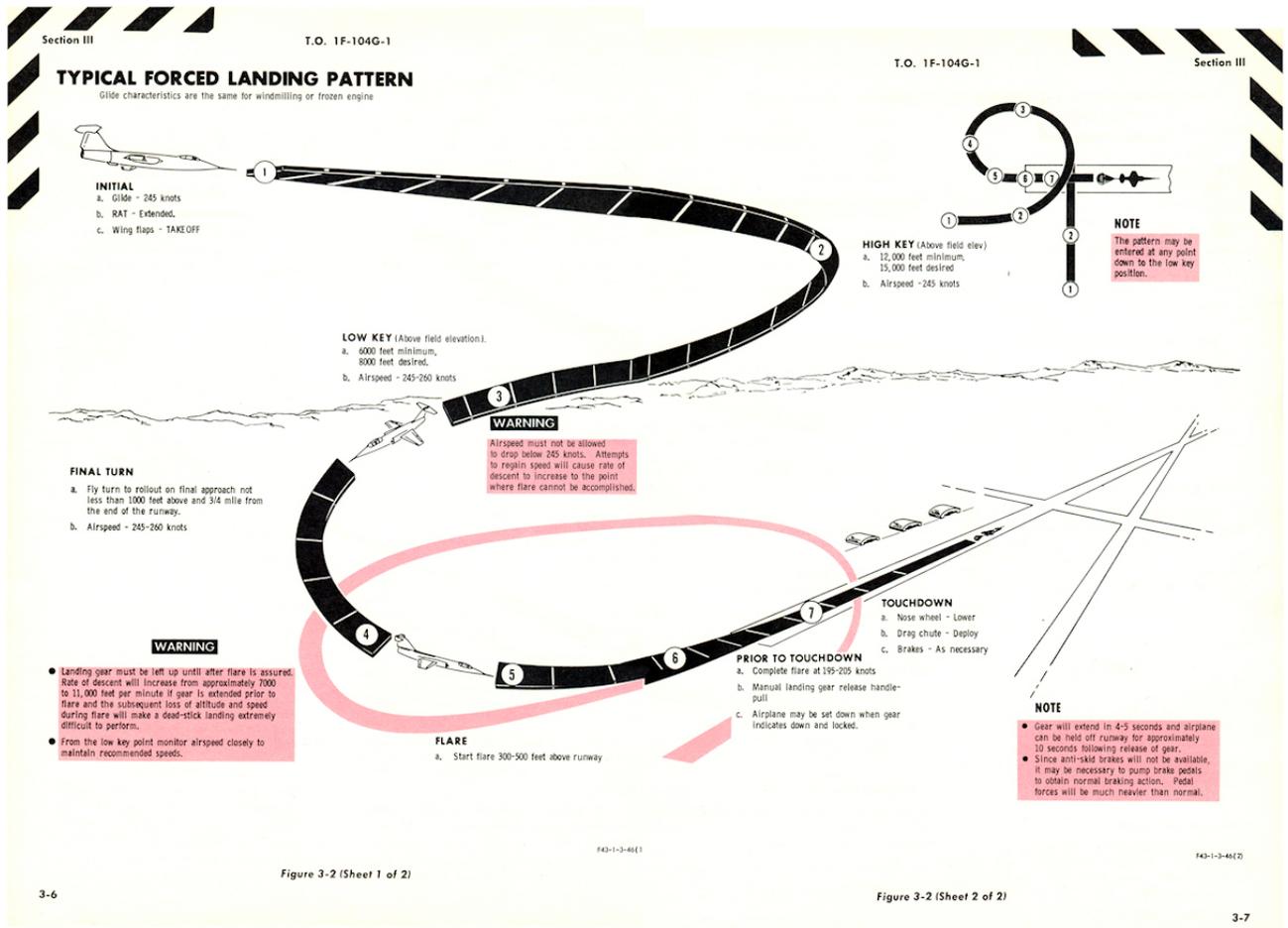


Photo : Serge Bonfond

Chièvres emergency crew is ready. My descent rate indicator is reading 10,000 ft/min, the covered ground distance is around 10 Nm every minute.

During my final turn to RWY 09, I leave the airspeed reach 260 kts. I'm facing the runway that's approaching quickly.

The last thing to do before the landing is to release the gear by free-fall. I know that sequence is going to last between 4 and 5 seconds, the induced drag will dramatically slowing down the aircraft.

On short final, considering to be at the proper distance to release the gear, I pull the Emergency Release Handle, and to my surprise, the wheels are going out almost instantly.⁵

I cross the runway threshold with an Airspeed of 180 kts, then I touch down in a high nose-up attitude.

The Drag-chute is working perfectly and stops the aircraft at mid runway.

After getting of the airplane, I do a turn-around inspection and find the aft fuselage slightly damaged due to impact with the runway during touchdown.

⁵ In Free-fall, the landing gear is supposed to be down and locked within 4 to 5 seconds at 220 kts.

With the airspeed at 260 kts, the landing gear is moving down more quickly and generates much more drag.

The technical team will quickly find the root cause of the flame-out. A screw is found in the Main Fuel Pump ; it broke some gears and finally blocked the pump.

That typical screw is normally used to secure the Main Fuel Pump Inlet cover, which is installed during heavy maintenance, when the engine is removed from the airframe.

One of the four screws has been replaced without worrying about the missing one.

I have received many sympathy messages, in particular from Lockheed and from some insurance companies as the Lloyd and Aviabel, who are insuring the SABCA aircraft.

Serge Martin.

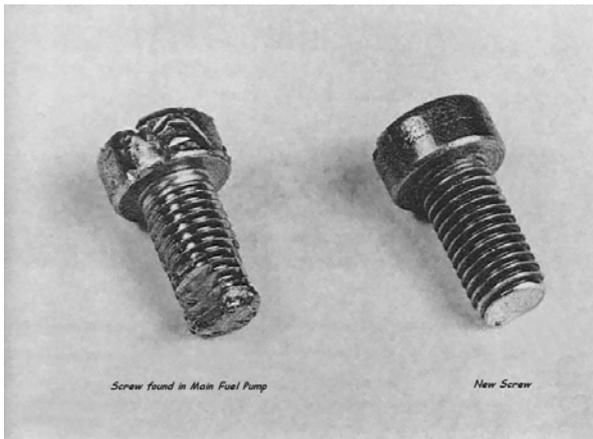


Photo : Collection VTB Magazine pour sergehenfend.be

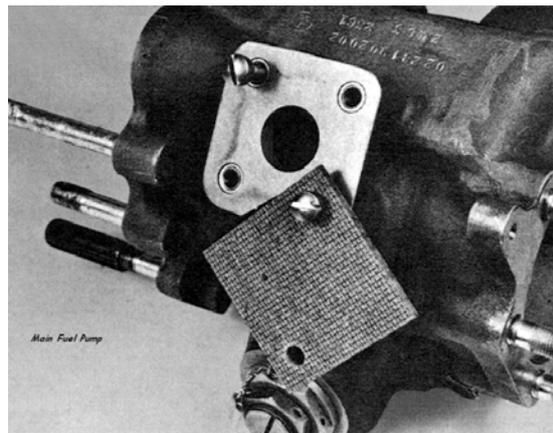


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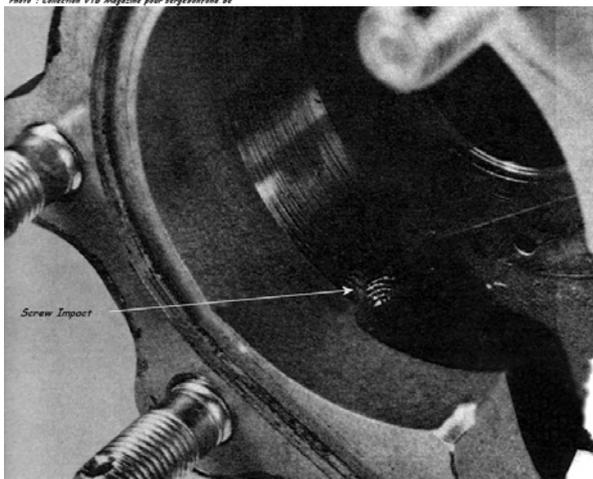


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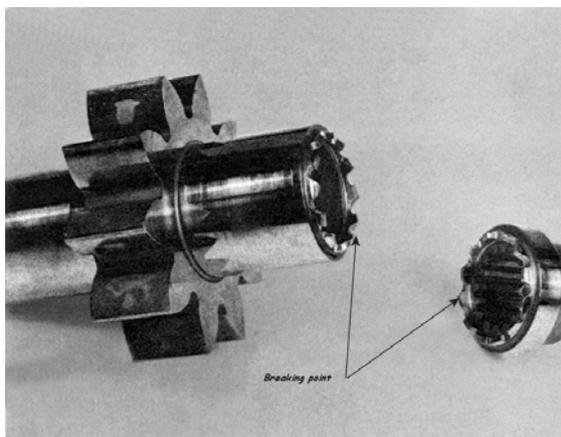


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Serge Martin successfully performed a very delicate and risky procedure, on February 26 1970, however this procedure is detailed in the Dash One (Flight Manual)

His professionalism, as well as the excellent team work with the controller of *Semmerzake*, the **Adjutant Hyman**, saved a Fighter Aircraft, and prevented substantial damage to third parties resulting of an ejection.

This achievement hit the headlines the following days:

„The chief test pilot successfully perform an unprecedented achievement“

„Serge Martin, the man who survived the Starfighter“

Kelly Johnson, Lockheed Senior Vice President, designer of the Lockheed U-2, SR-71 Blackbird, F-104 Starfighter, and Glen.L „Snake“ Reeves, Lockheed Test Pilot, gave him an „*Award for Flying Excellence*“ with the following mention :

„It is with great pleasure that we recognize the magnificent skill that you displayed in landing your Starfighter after a Flame Out

The Rarity of dead-engine landings has increased to the point of non-existence with the increasing performance of supersonic fighter aircraft.

This makes your feat all the more remarkable and bespeaks exceedingly well for your cool courage under stress.

Our studies of the time history of the emergency have revealed the sharp, professional manner in which you conducted yourself and handled your aircraft.

Therefore, we note with pride your outstanding pilotage and loyal dedication to the challenges and responsibilities inherent in the exclusive realm of the test flying.

Congratulations on a marvelous job ! „



Photo : Collection VTB Magazine pour sergebonfond.be

Translation based on a article of VTB Magazine ⁱ

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ⁱ Vieille Tiges de l'aviation belge (Mars 2011)