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Avions Dassault

MIRAGE V

LOCK ON N°11

AIRCRAFT PHOTO FILE

601

Willy Peeters

MIRAGE V
N° 42 SQUADRON
BELGIAN AIR FORCE

VERLINDEN PUBLICATIONS

ACKNOWLEDGEMENTS

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My sincere apologies to those I forgot to mention, it was unintentional.
The author

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COVER: MIRAGE V BR27 is seen taking up speed until the needle reaches the required 160 knots take-off mark and with the gear retracted before reaching 240 knots, it will soon be heading to its designated target for an afternoon photo-session.

MIRAGE V BA17 on the apron of its home base Bierset, northwest of Liège in the southern part of Belgium.

A former Patrouille de France pilot, currently assigned to EC 3/13 at Colmar, France, awaiting the removal of the ladder by a mechanic before taking off for its home base.
(Photo by Marck De Boeck)

TITLE PAGE: A Belgian Air Force Mirage V BR hooked-up to a test unit on the sunny side of the airfield with the groundcrew enjoying a possible coffee break.

REAR COVER: 1st Lt Didier LECQEUX cranking up BA54, spotting the nickname "DIYARBAKIR EXPRESS" as a reminder to its brief stay in Turkey during the recent Gulf War.

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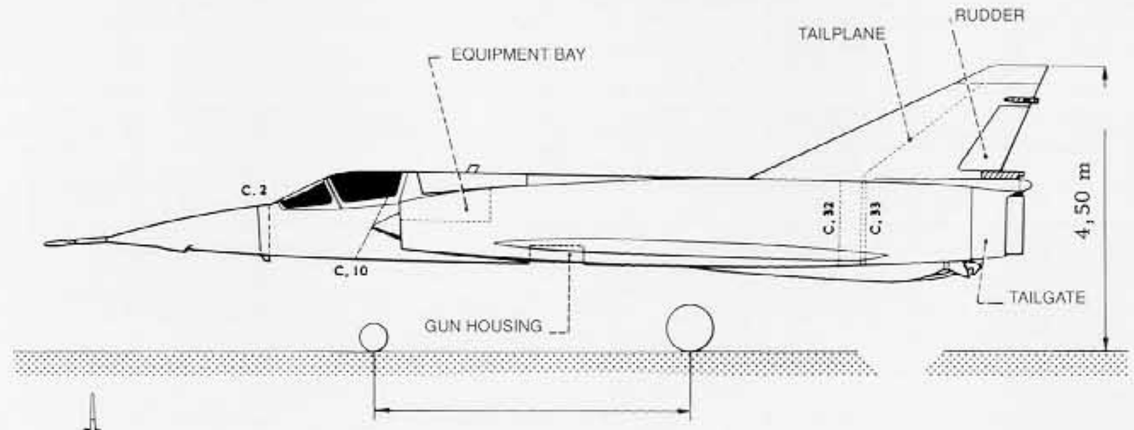
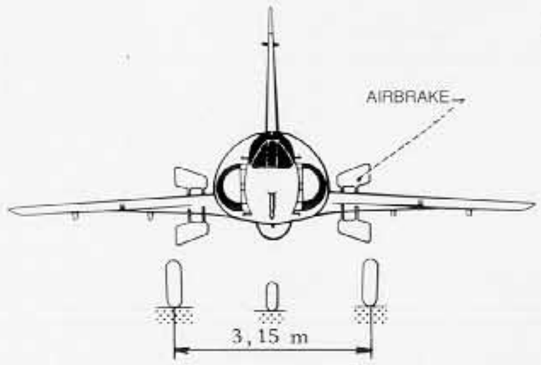
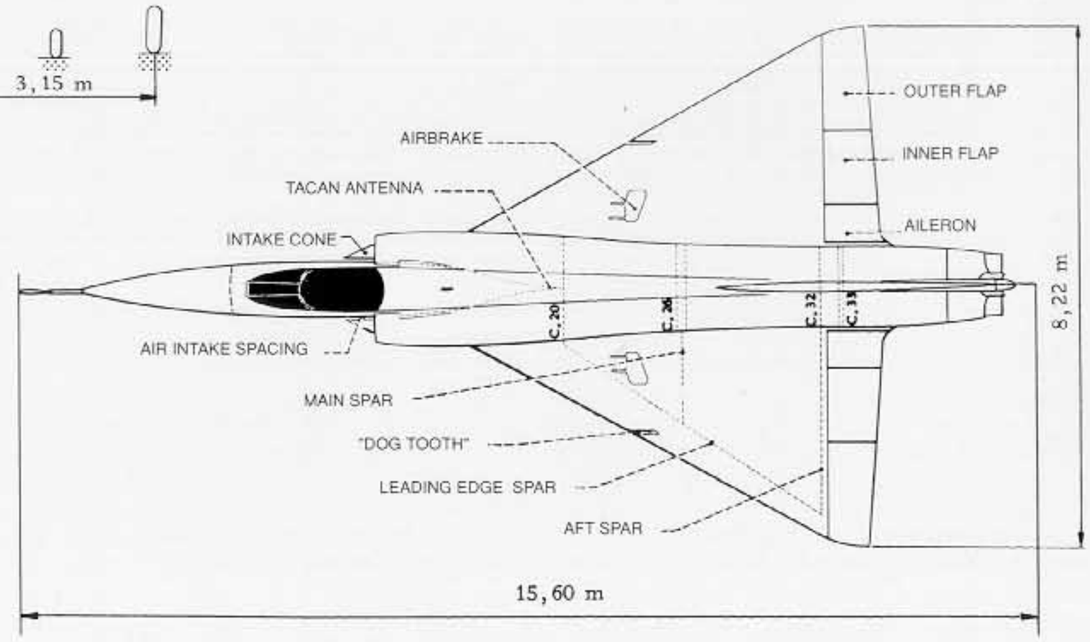
Clearly state name and address when sending in your material.

MIRAGE V
CHARACTERISTICS





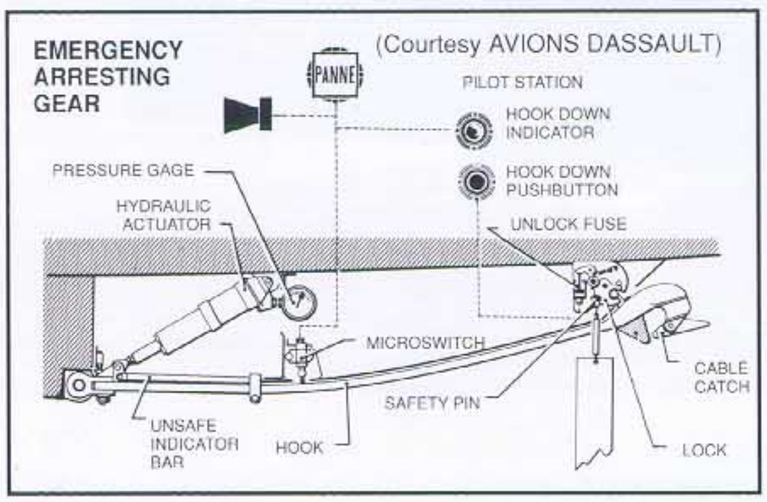
(Courtesy AVIONS DASSAULT)



(Top) Belgian Air Force MIRAGE V (BA15) parked on the outskirts of Bierset Air Base showing to good advantage the dual speedbrakes and the distinctive "NO STEP" marking on the upper speedbrake. The sleek lines of this DASSAULT design stand out very clearly when viewed from this angle.

(Right) The gun muzzles are located on the lower sides of the air intakes on either side of the aircraft. Note the red protective cover and the IFF antenna in the nose gear door.

Additional external stores include the supersonic 500 liter fuel tank (above) or the large 1700 liter fuel reservoir (right and bottom left). On the aft lower side of the fuselage are located a chaff/flare dispenser , a fuel dump (in the wing root) and the ventral housing with the emergency arresting hook.



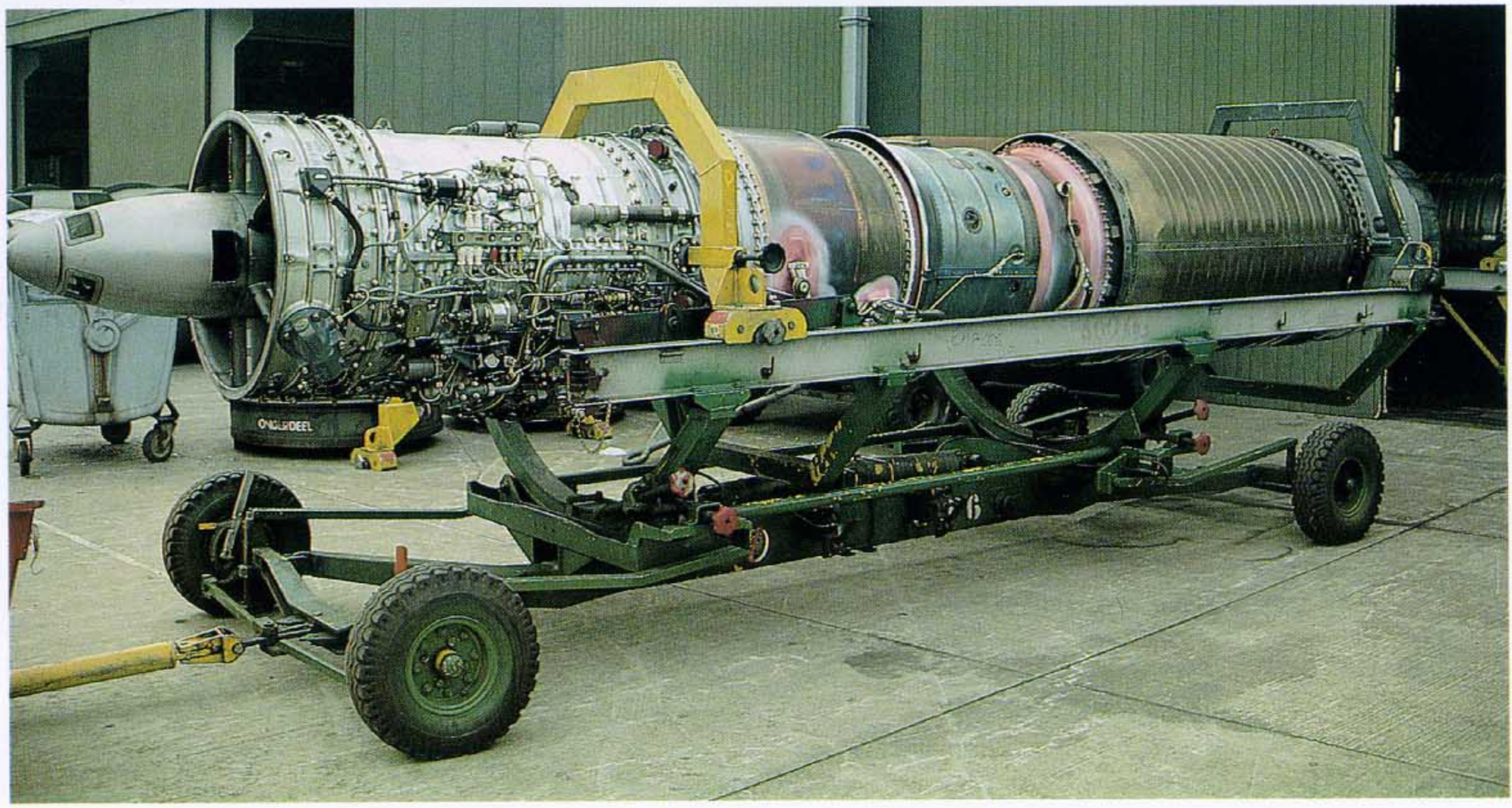
(Far left) The Mirage tail with various ECM antennas (above and below rudder) and the principal UHF antenna on top of the tailplane.

(Left) A Mirage characteristic is the bottle-neck shape of the fuselage.

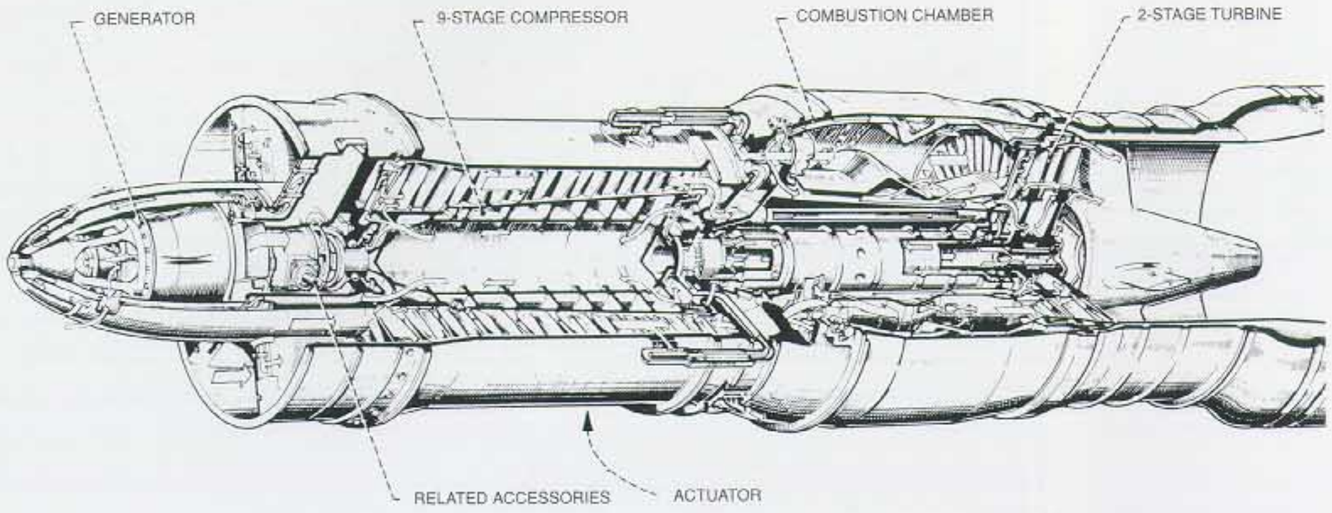
(Bottom left) The outer wing tip of the Mirage has a concave shape to optimise air flow and lift during maneuvers.

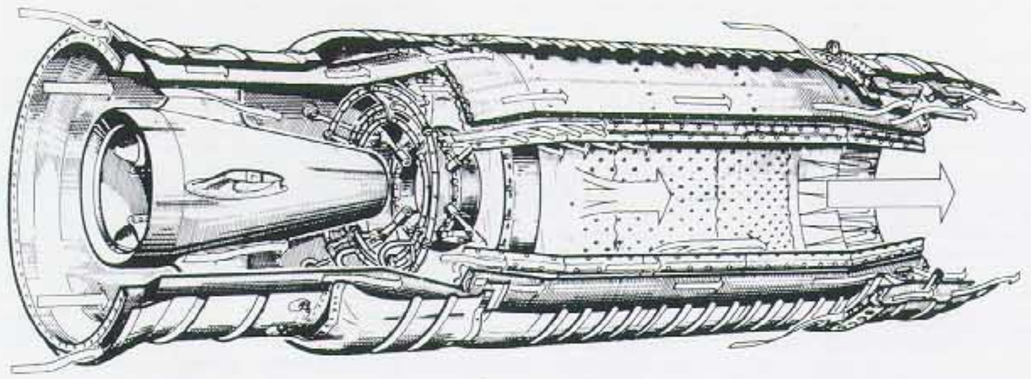
(Bottom right) The hot air area of the Mirage with the heavily damaged drag chute housing cone just above. This cone is jettisoned when the drag chute activating handle is pulled, and is later retrieved by groundcrew.

The Mirage V is powered by this SNECMA ATAR 09 C5 jet engine providing 4300 kg of thrust in military and 6080 kg thrust in full AB (afterburner mode). A heavy duty cart is needed to transfer the engine (which weighs some 1400 kg) from the test stand to the hangar where the engines are refitted.
The engine has a 9 stage compressor and a 2 stage turbine.
Despite the size of this engine, its performance is somewhat inferior to that of other Mirage fighters such as the MIRAGE III.
Maximum speed is some 750 knots below 33000 ft and near MACH2 above that flight level.



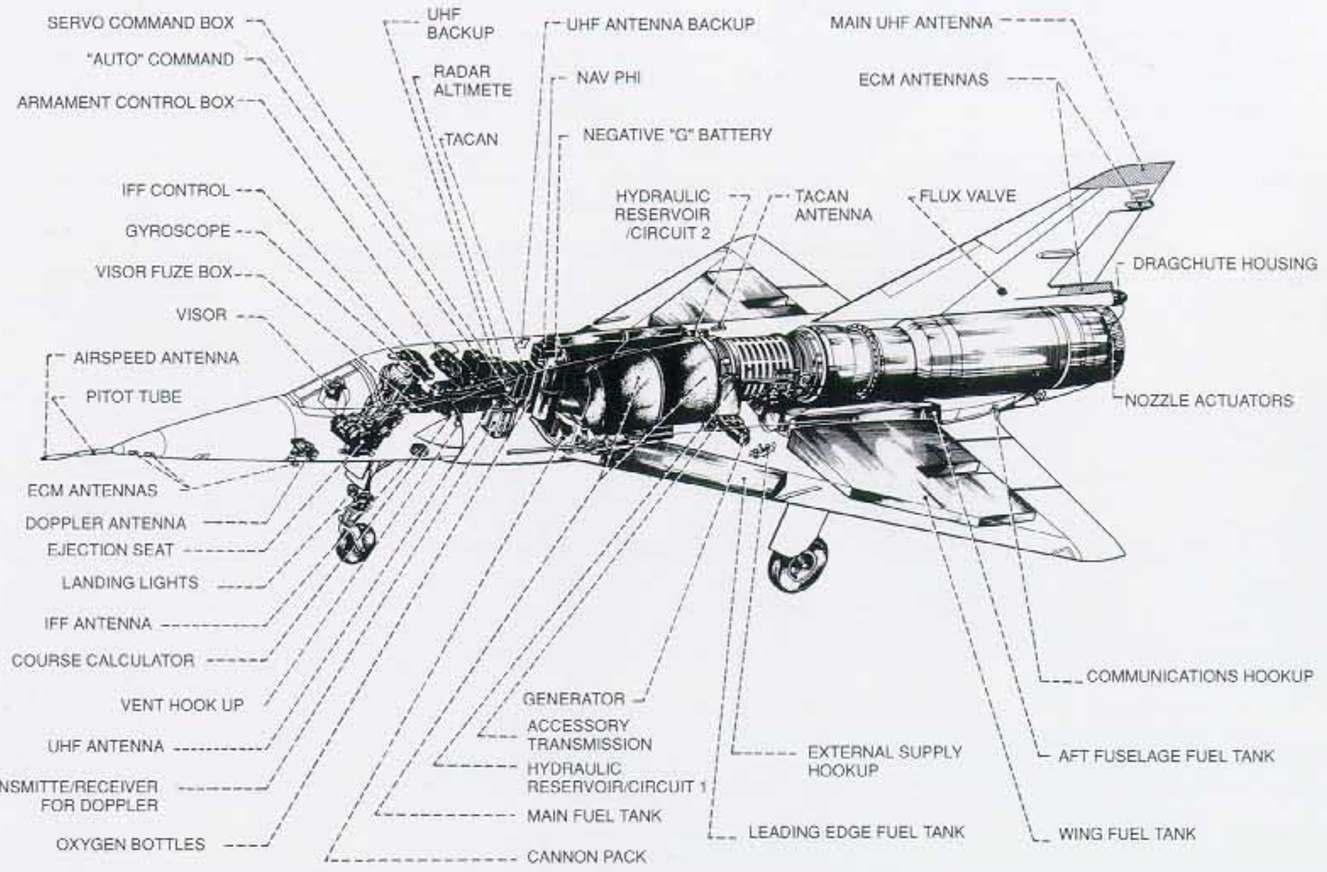
SNECMA ATAR 9C





(Courtesy AVIONS DASSAULT)

The fighter viewed from behind with the plastic fuel collector looking completely out of place on an attack aircraft but which keeps the excess fuel (due to fuel expansion in the main wing tanks and the lower central fuselage tank) from being spilled and causing a fire hazardous situation. Note the drooped wing flap and the "NO STEP" markings on the flap and the aileron.



(Courtesy AVIONS DASSAULT)

A seven tube LAU 32 B/A rocket launcher firing 2.75 inch rockets can be carried on the larger outer pylon. When fired in the "salvo" mode a rocket is launched every 0,03 seconds. Note the pylon is integrally mounted to the flap activating assembly.
The launcher measures 1580mm in length and 245mm in diameter.

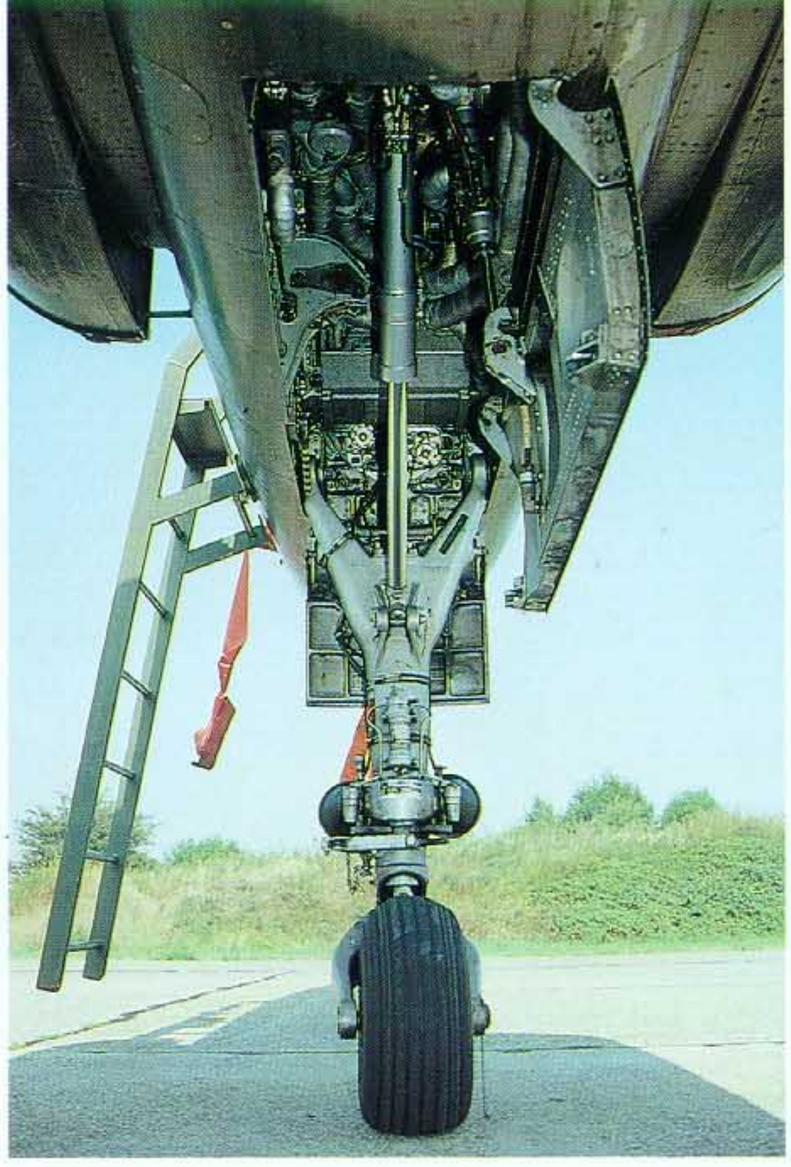
A photo dominated by the large 1700 liter fuel tank which shows various interesting items such as the UHF blade antenna just aft of the canopy, the upper spine TACAN antenna with an auxiliary air intake just next to it.
Note the access panel to the electrical compartment just above the wing root and the dog tooth of the wing just above the fuel tank.
The wing leading edge has a 60°34' angle to the centerline of the aircraft. Wing surfaces equal some 34,8 square meters.

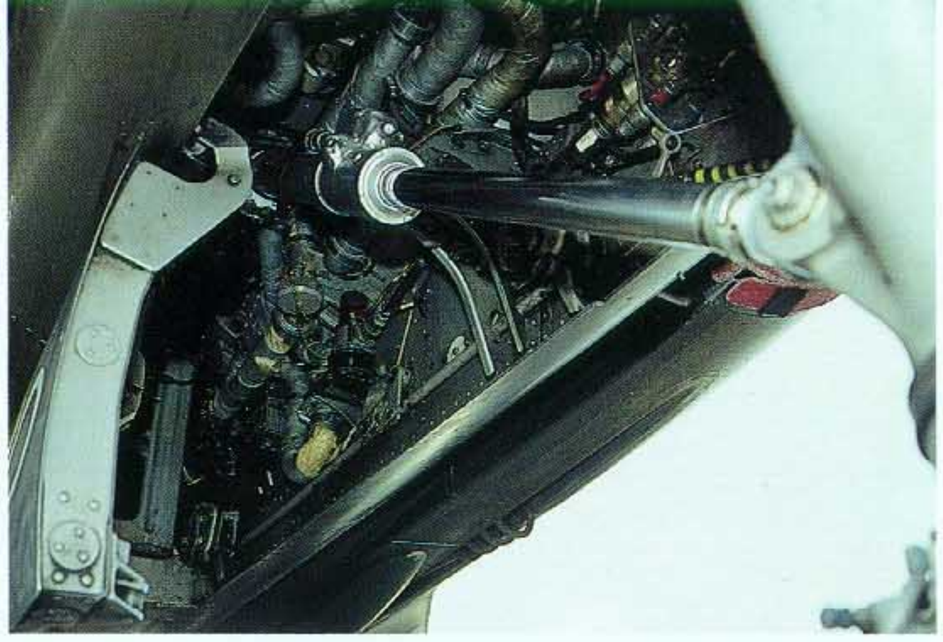
The lower side of the left air intake with a good view on the wing root housing. Just below it can be seen the gas exhaust vent of the gun. Note the inside detail of the nose gear door.

(Right) The single-wheel nose gear strut with the upper fork fuselage attachment and with the torque/anti skim assembly clearly shown on the bottom of the strut.

(Far right) Dual upper doors and landing lights are the most important features in this front view of the nose gear strut.

A small ladder can be attached to the left fuselage side slightly in front of the canopy. Note the cover over the static port (aside) and the lower DOPPLER antenna (bottom) on the nose. Also note the small emergency rescue window (marked in yellow) just aft of the canopy.

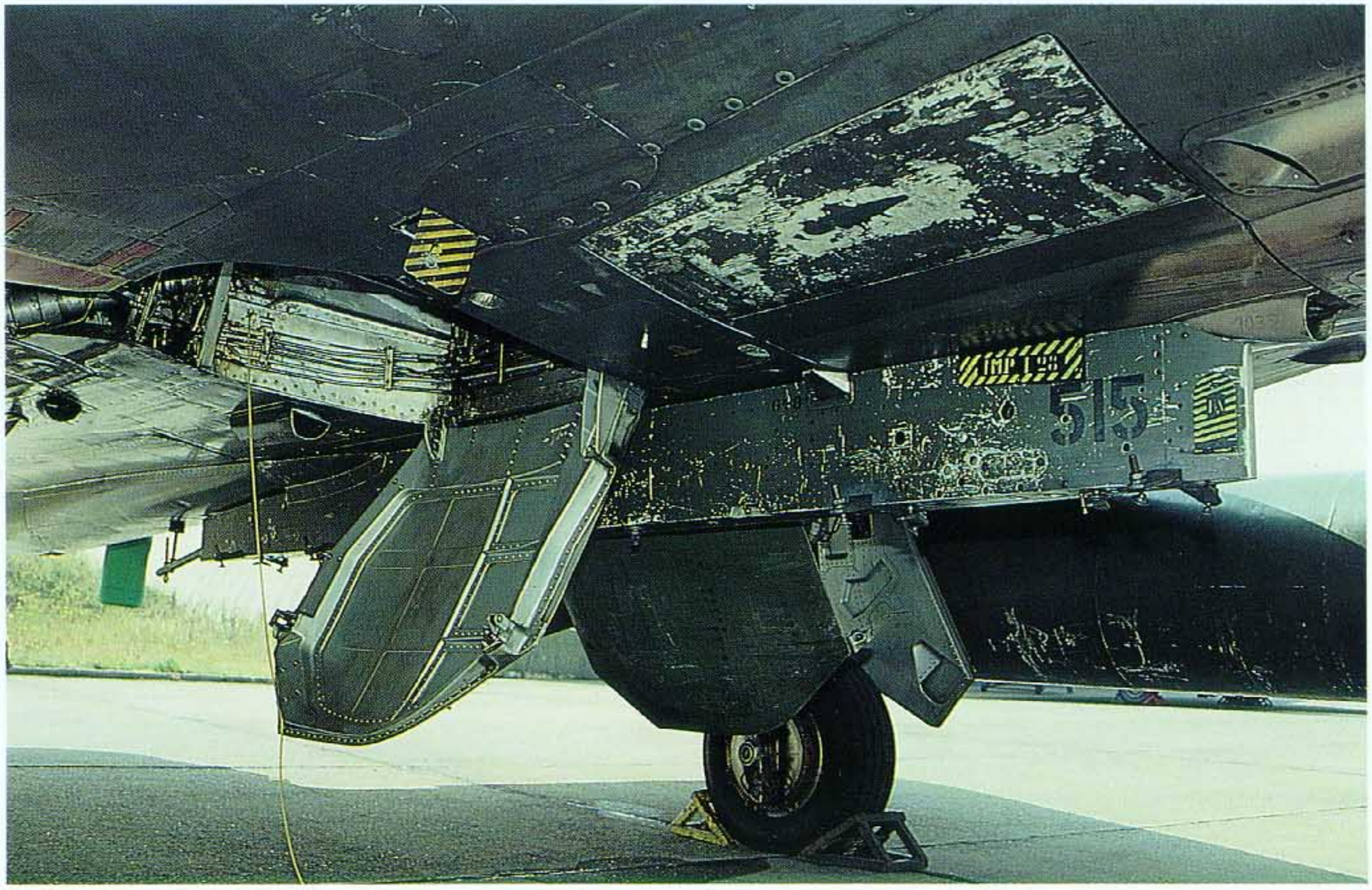




Left side detail of the wheel well which is hard to photograph from any angle.

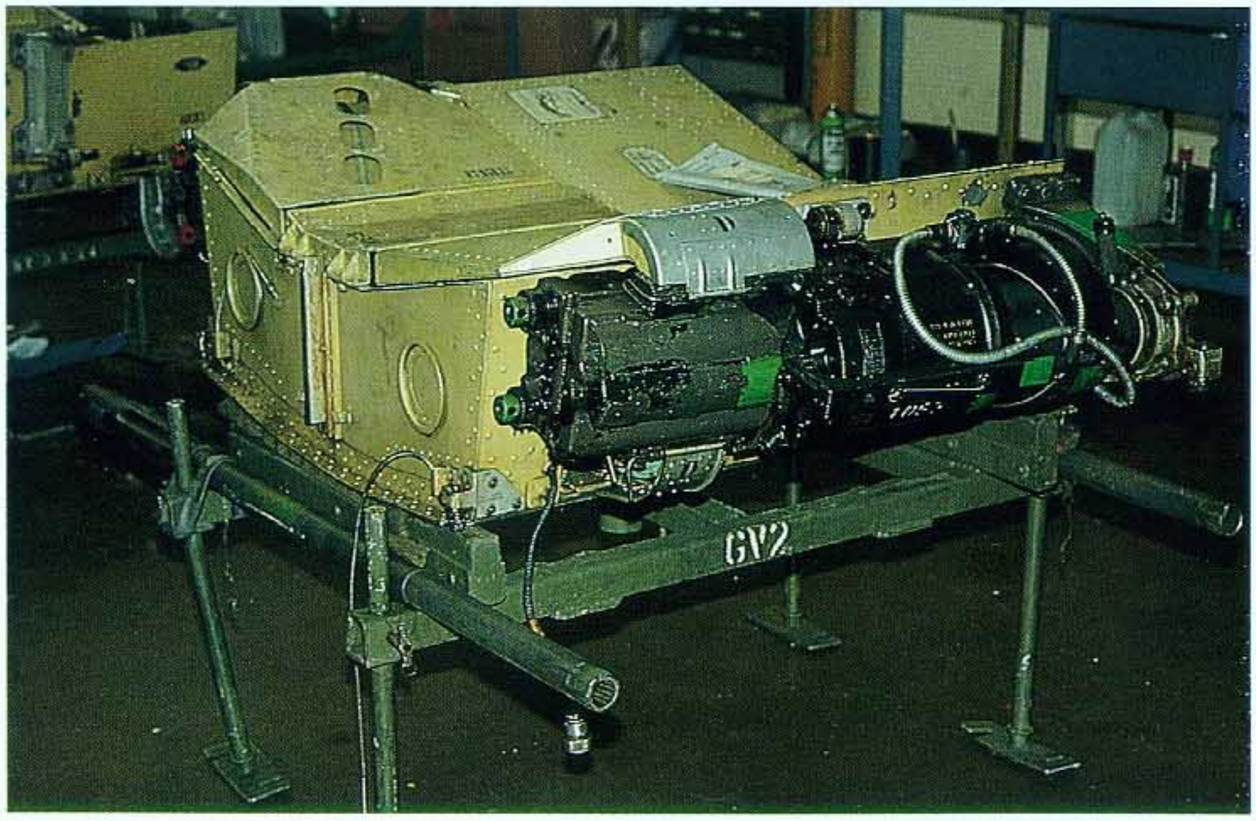
(Left) Inside detail of the wheel well with various pipes and tubing leaving just enough room to fit the nose gear strut and the wheel. Note the IFF antenna connection in the door.

(Top) A single strut retracts the nose gear into the nose gear well which has a bare aluminum color. Note the distance between the air intakes and the fuselage.

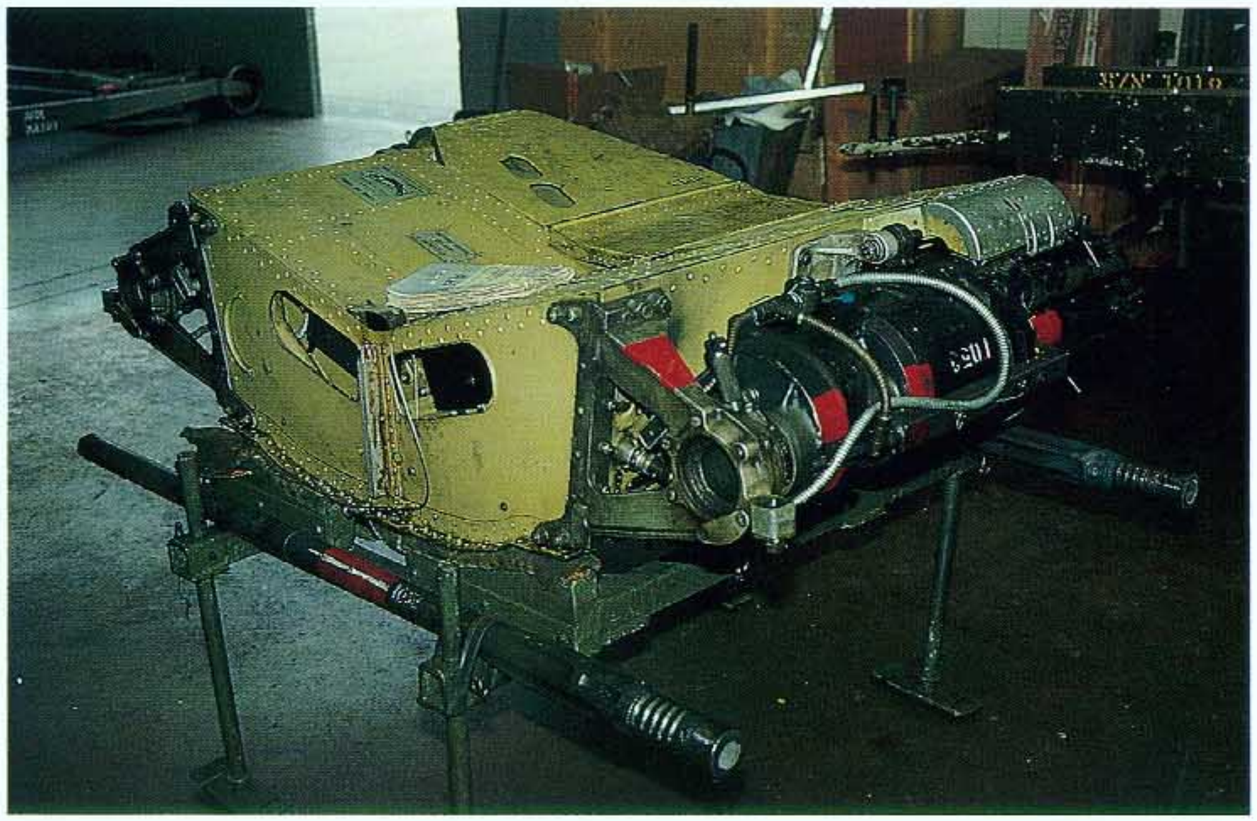


(Right) A severely weathered center pylon which runs al the way through to the ventral spine on the aft side of the fuselage. The chipped-off panel aside the front of the pylon gives access to the gun (one on each side) and is part of a gun pack which can be seen on the next page. Inside detail of the bare aluminum main gear door is also clear.

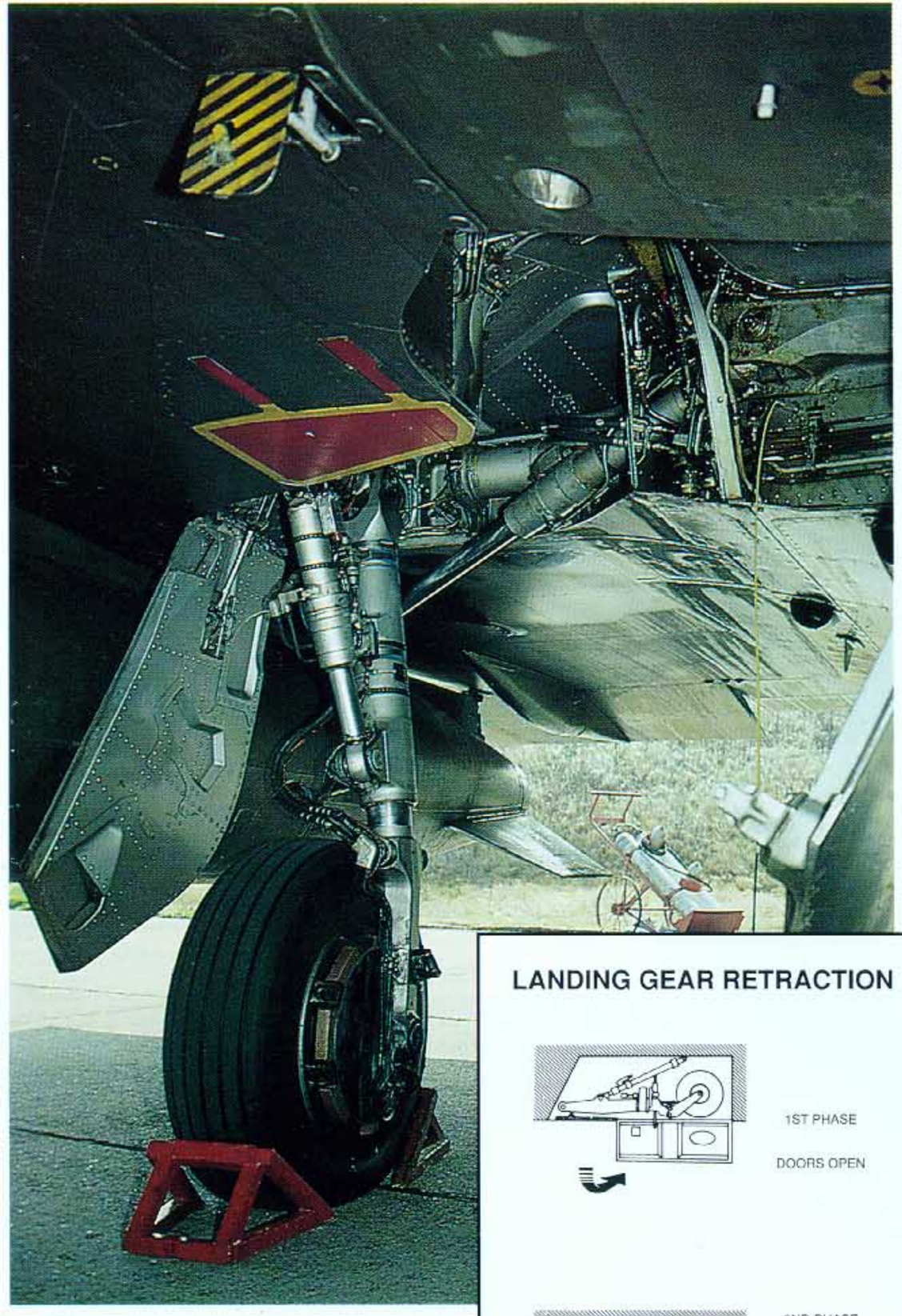
The opposite side of the center pylon with the left side gun door in the center of the picture. Extensive use of the aircraft leaves a lot of scratches and chipped-off panels which will be replaced or overpainted when major overhaul is executed.

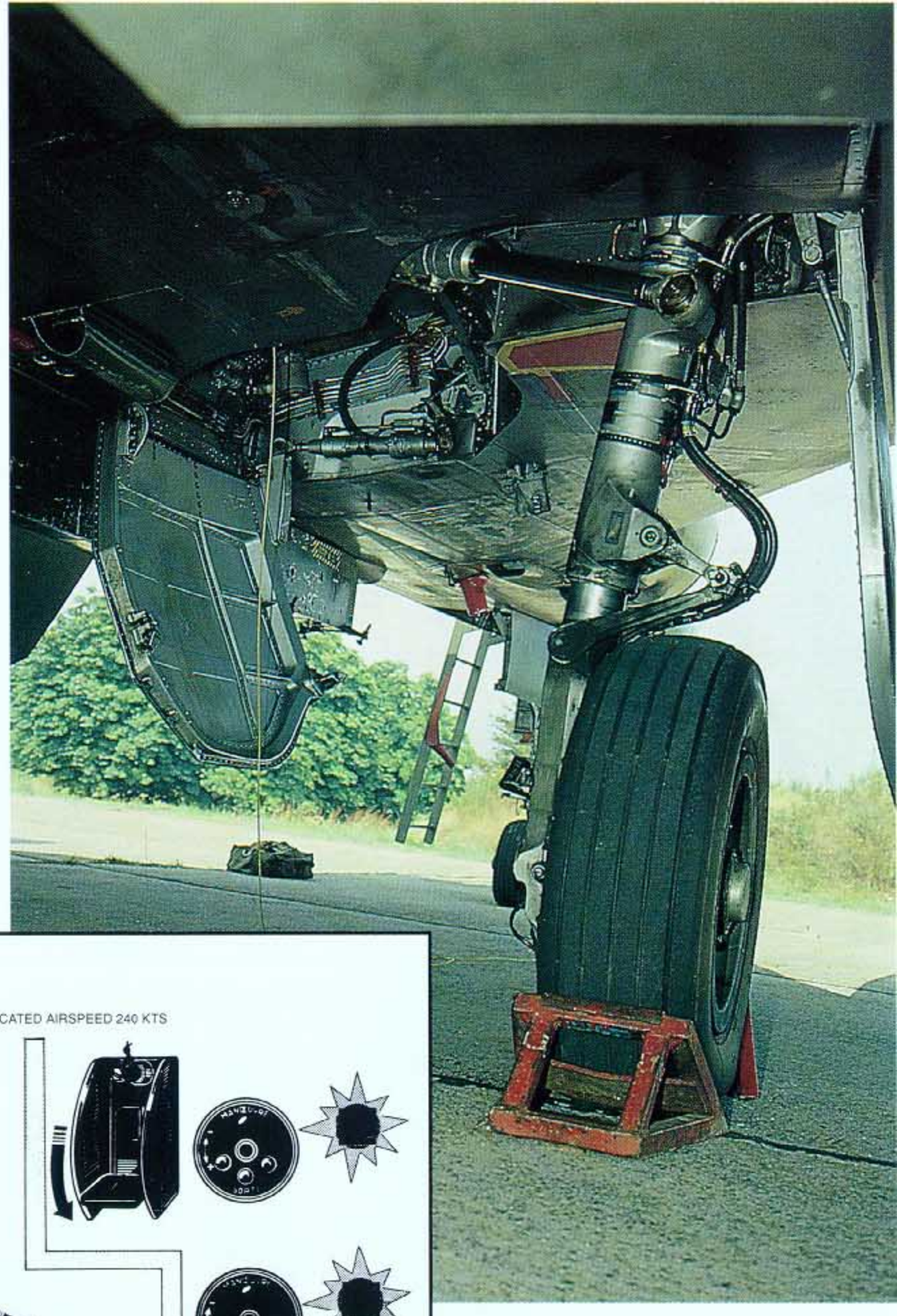


Two 30mm DEFA cannons are side-mounted to a removable ammo pack which weighs 356 K's.
The 80 k's heavy guns are interchangeable and are powered by a 24 volts electrical current.
The two gun barrels can be seen in front of the pack.

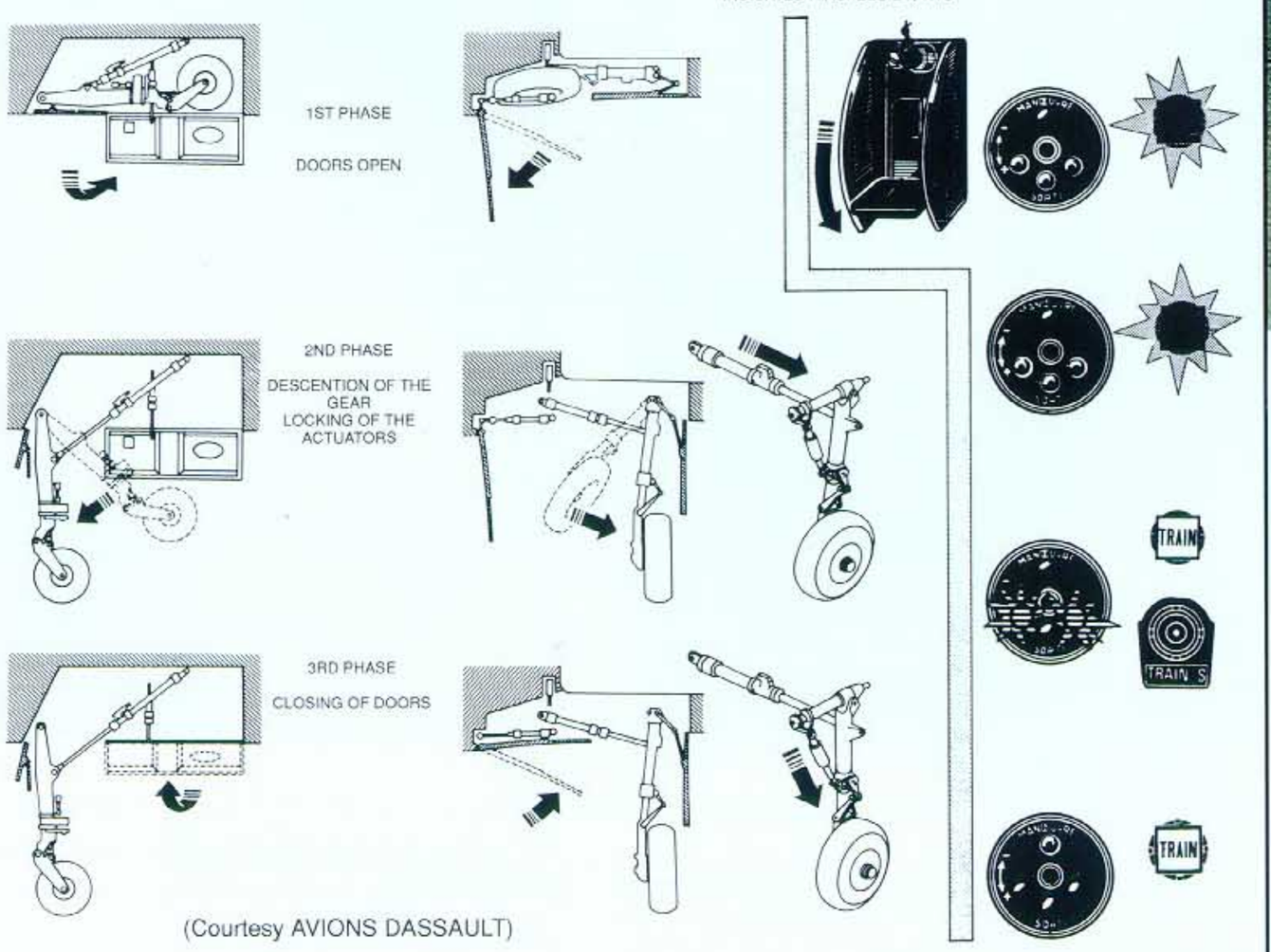


Ammo capacity is 2x125 rounds which are electrically feeded. Empty shells are retrieved rather than discarded which was the case with some earlier fighter planes. Ammo speed is 1200 to 1400 rounds per minute which counts for some 6 seconds of continious fire. Note the color of the ammo pack.





LANDING GEAR RETRACTION



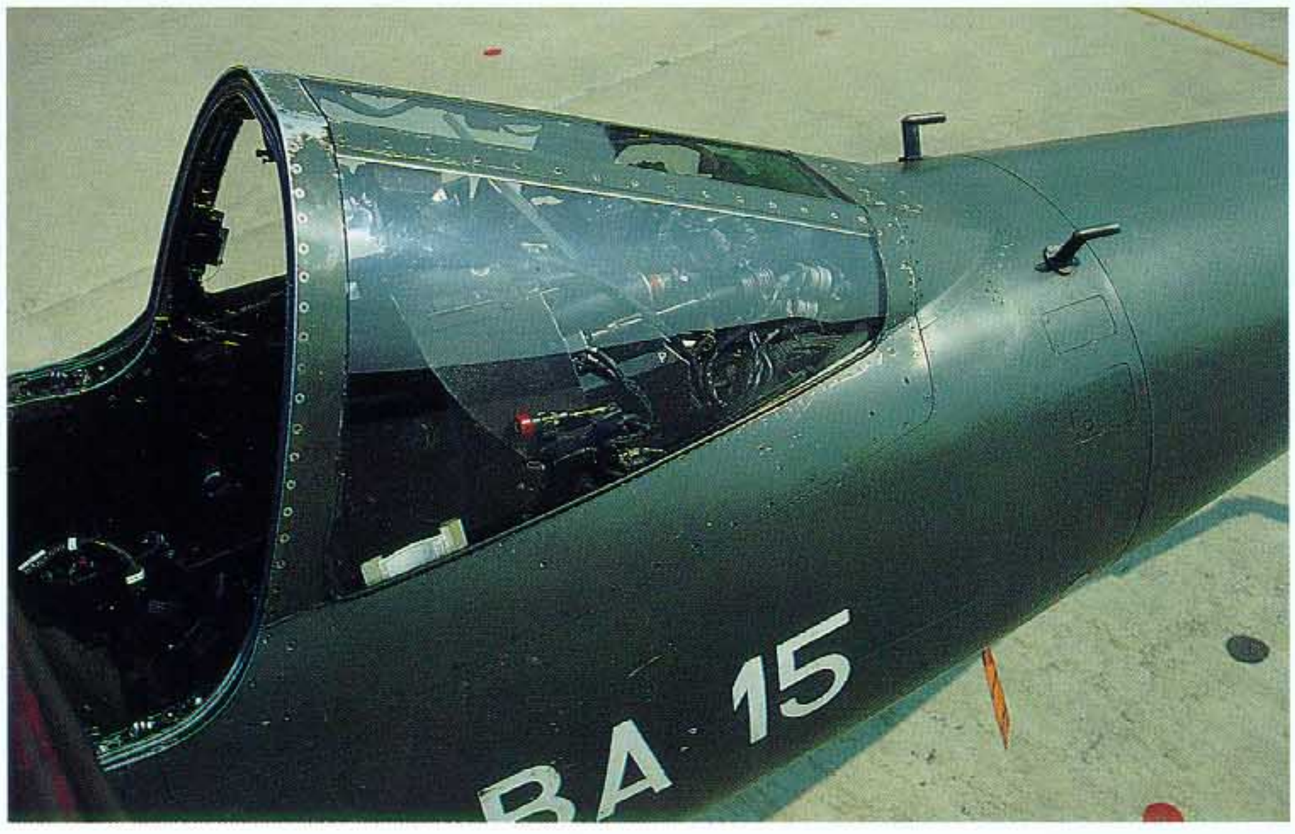
(Courtesy AVIONS DASSAULT)

(Top left) Bottom detail of the area between the main wheel wells with a close view on the rear of the center pylon. Note the white TACAN antenna at the top of the picture.

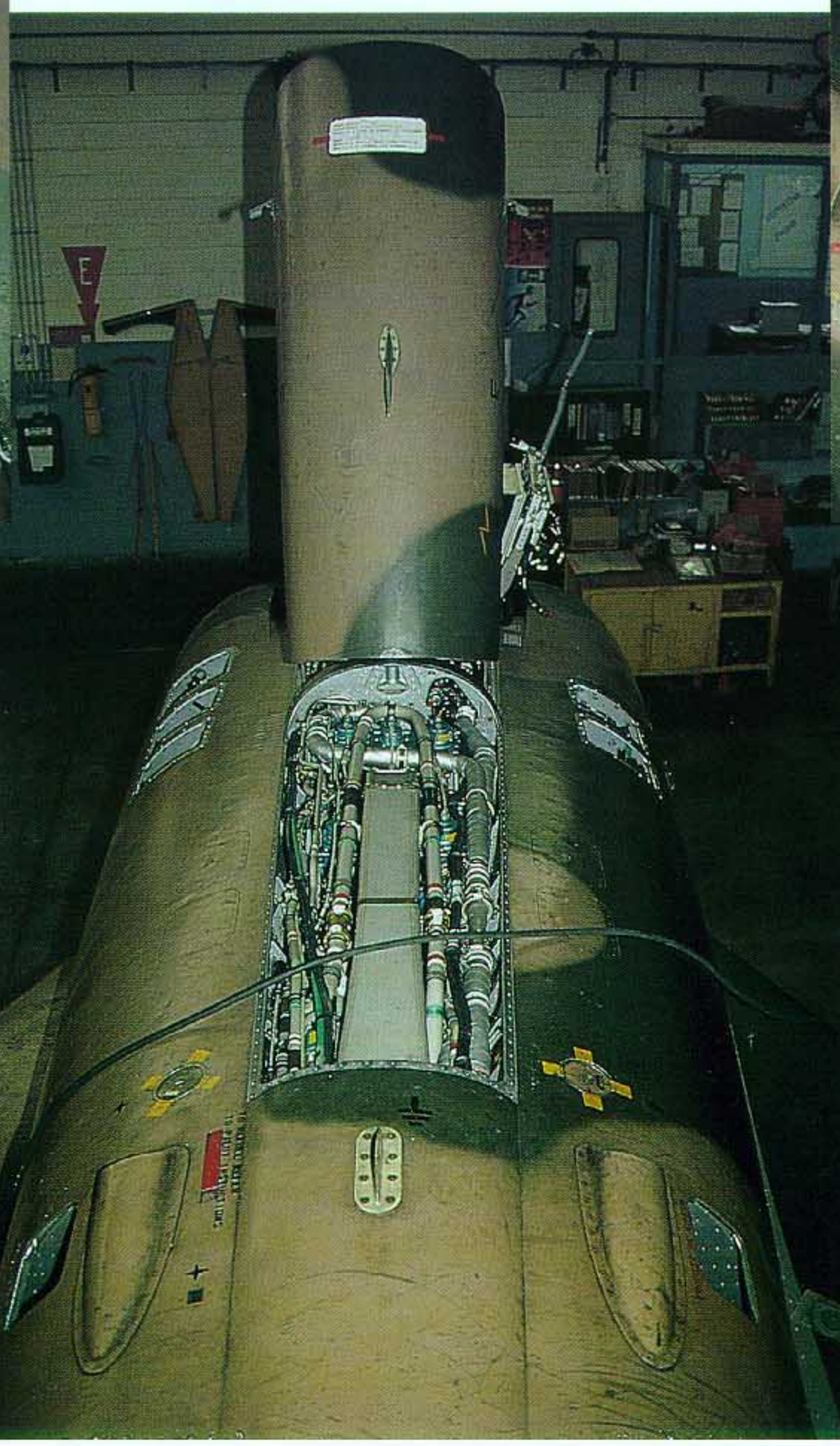
(Top) The left main gear strut with the lower speed brake (painted red and yellow) just in front of it. The small black/yellow panel at the top right of the picture covers the electrical connect.

(Left) The large main gear door with reinforcement ribs is dual hinged and has a front and rear locking device. Note the wheel well inner detail.


BA 27
BA 39
BA 27


BA 15

(Right) Upper wing detail on the left side. The wing root fuel tank cover can be seen next to the dog tooth on the right.



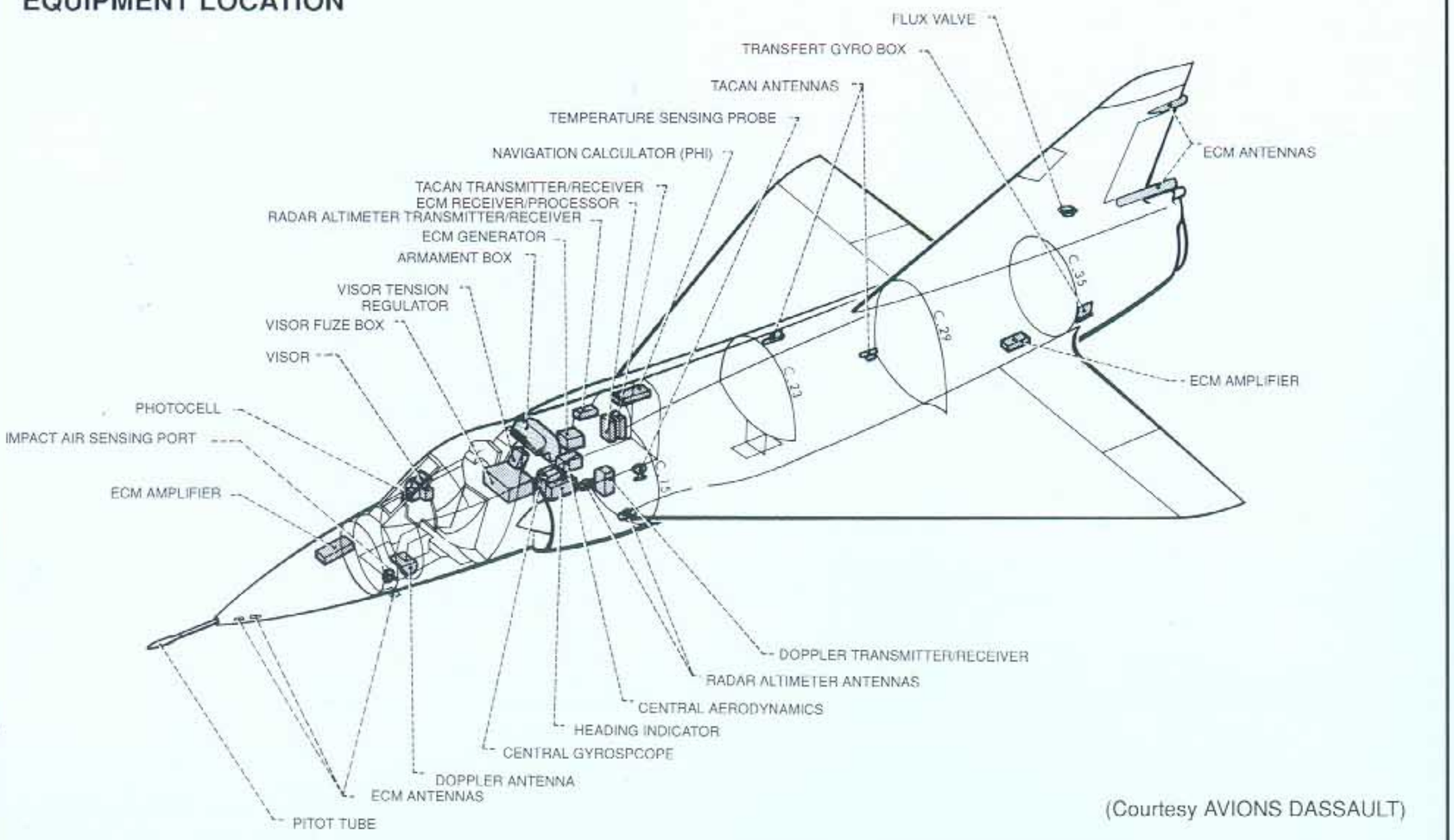
A view of the upper spine looking aft. The red band marks the front end of the engine. The upper TACAN antenna and the auxiliary air intakes can be seen just aft of it. The two small round access panels in front give way to the hydraulic reservoirs.

(Previous page, top) BA27 in its early days featuring a Vietnam type camouflage scheme with "off white" lower surfaces.

(Previous page, bottom) Two views of the lower windscreen detail with the two air conditioning temperature probes just in front. Note the instruments are not covered with canvas for ventilation purposes.

The spine viewed from the same location as in the top left picture but looking forward. The large panel has been removed allowing a view on various pipes and hoses. Almost all panels need to be unscrewed for maintenace with very few "quick release" hatches present on early jet fighters such as the Mirage.

EQUIPMENT LOCATION



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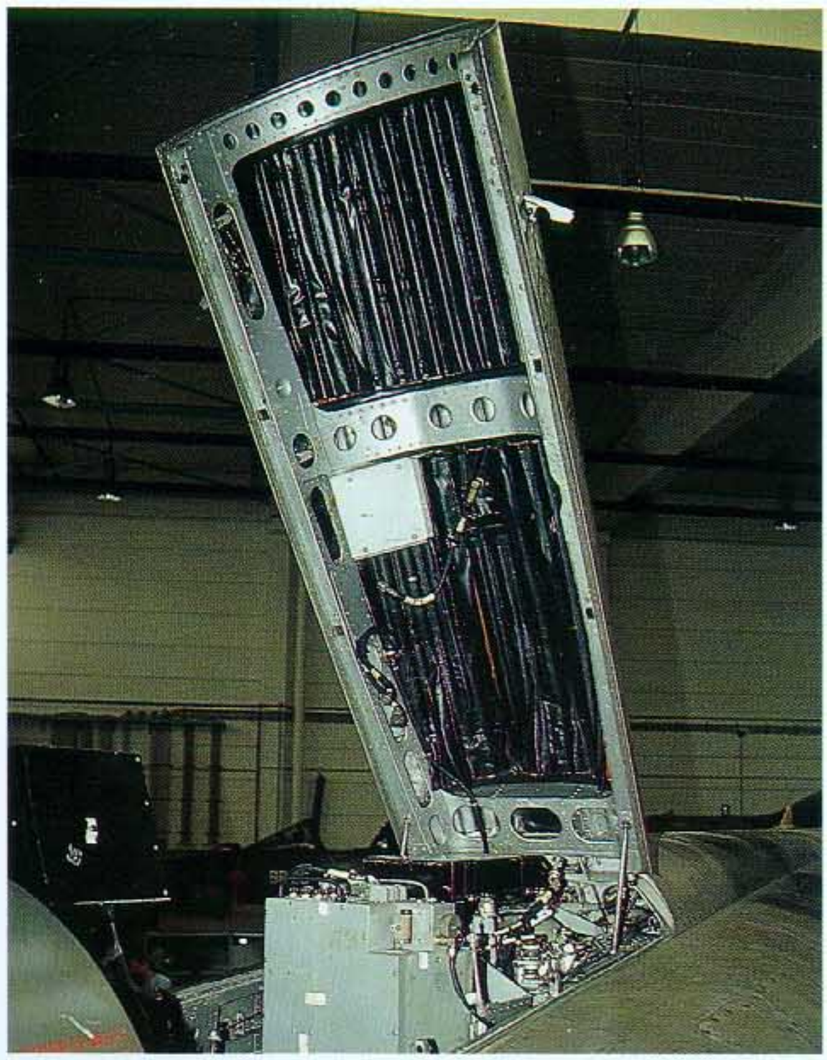
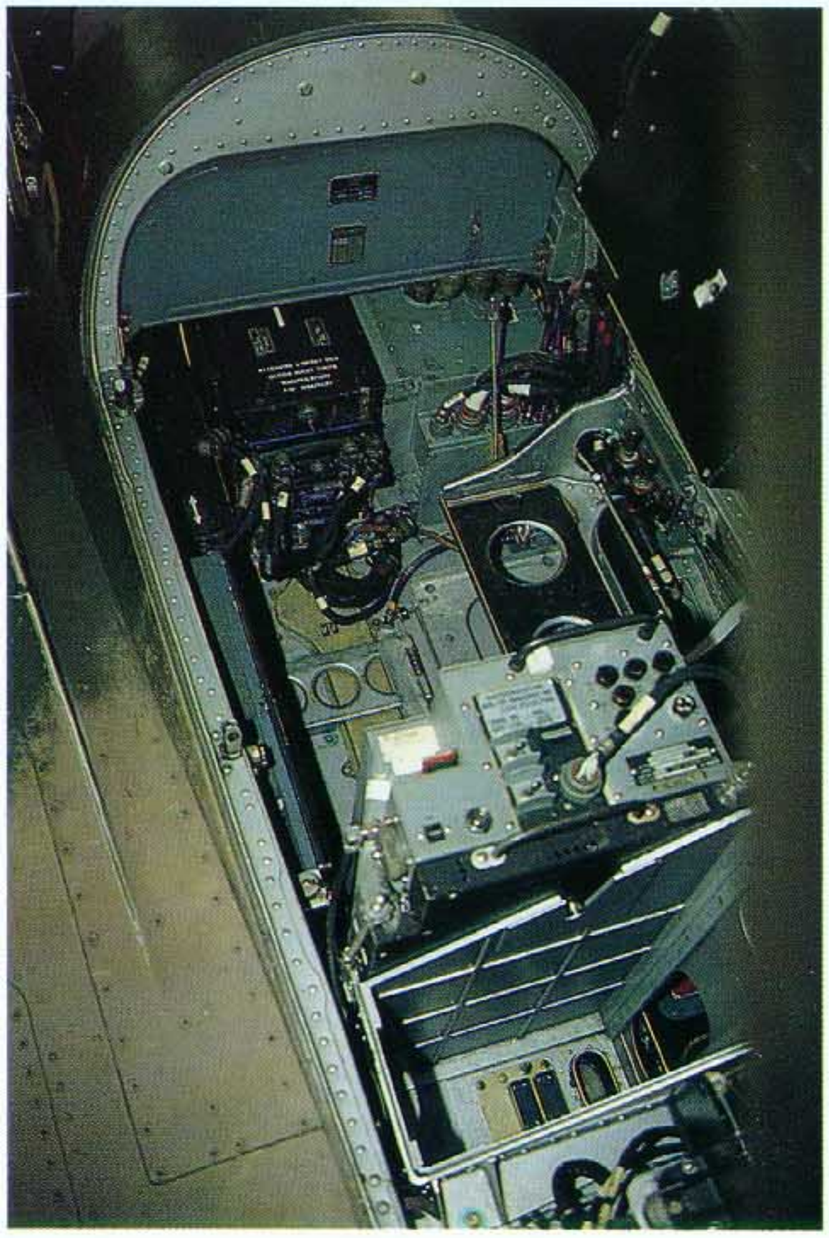
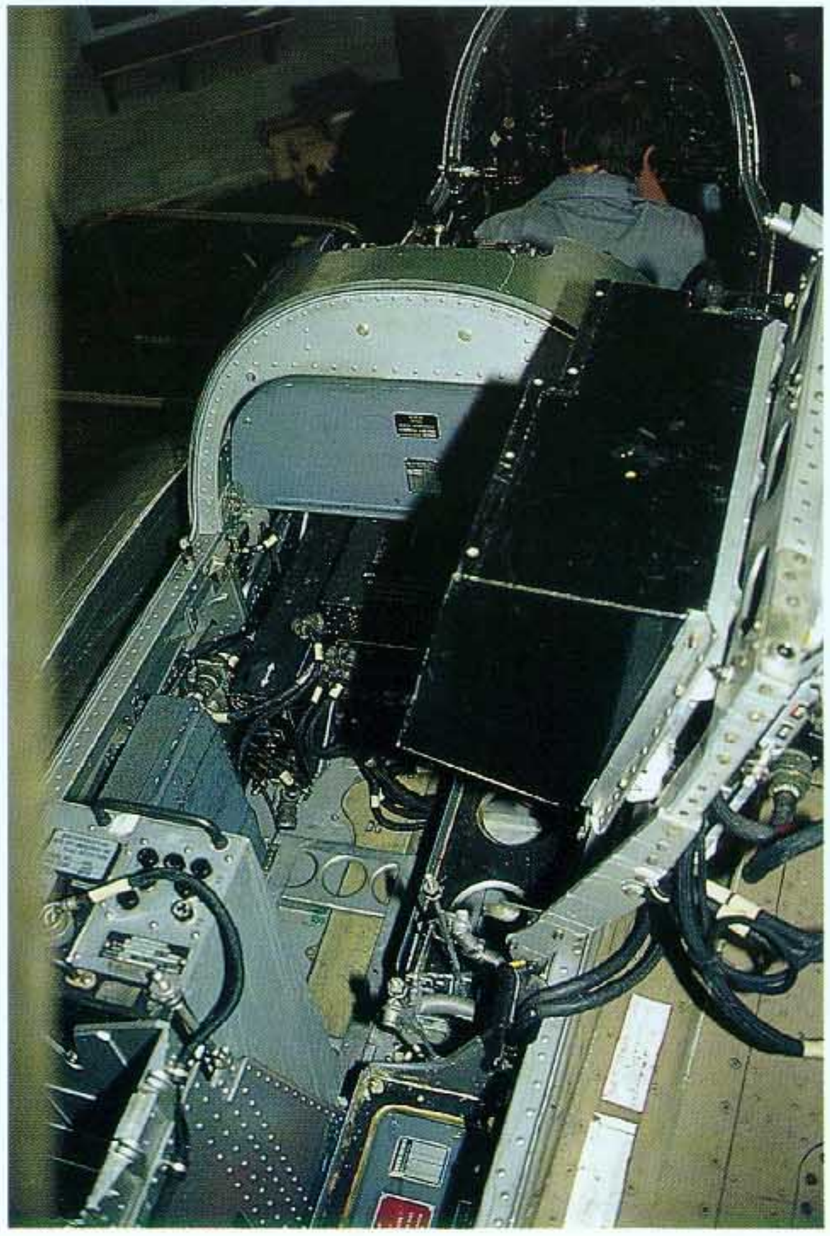






(Previous page) A page covering the main electronic bay just aft of the cockpit. The main components are described in the illustration in the top left corner.

(Above) BR26 banking away from the camera. Three practice bombs can be seen mounted to a special adapter underneath the center pylon. The size and shape of the chaff/flare dispenser can be determined from this view as well as the pattern of the "wrap-around" camouflage scheme.
(Photo by Marck DE BOECK)

(Following page) The same aircarft, BR26, heading towards the sun at high altitude. This aircraft, the reconnaissance version of the MIRAGE V in service with the Belgian Air Force, belongs to N°42 Squadron. Its emblem, the "Mephisto" is proudy worn on the tail.
Apart from the nose forward of the windscreen, the BR is externally the same as the BA.
(Photo by Marck DE BOECK)


BR26
N°328

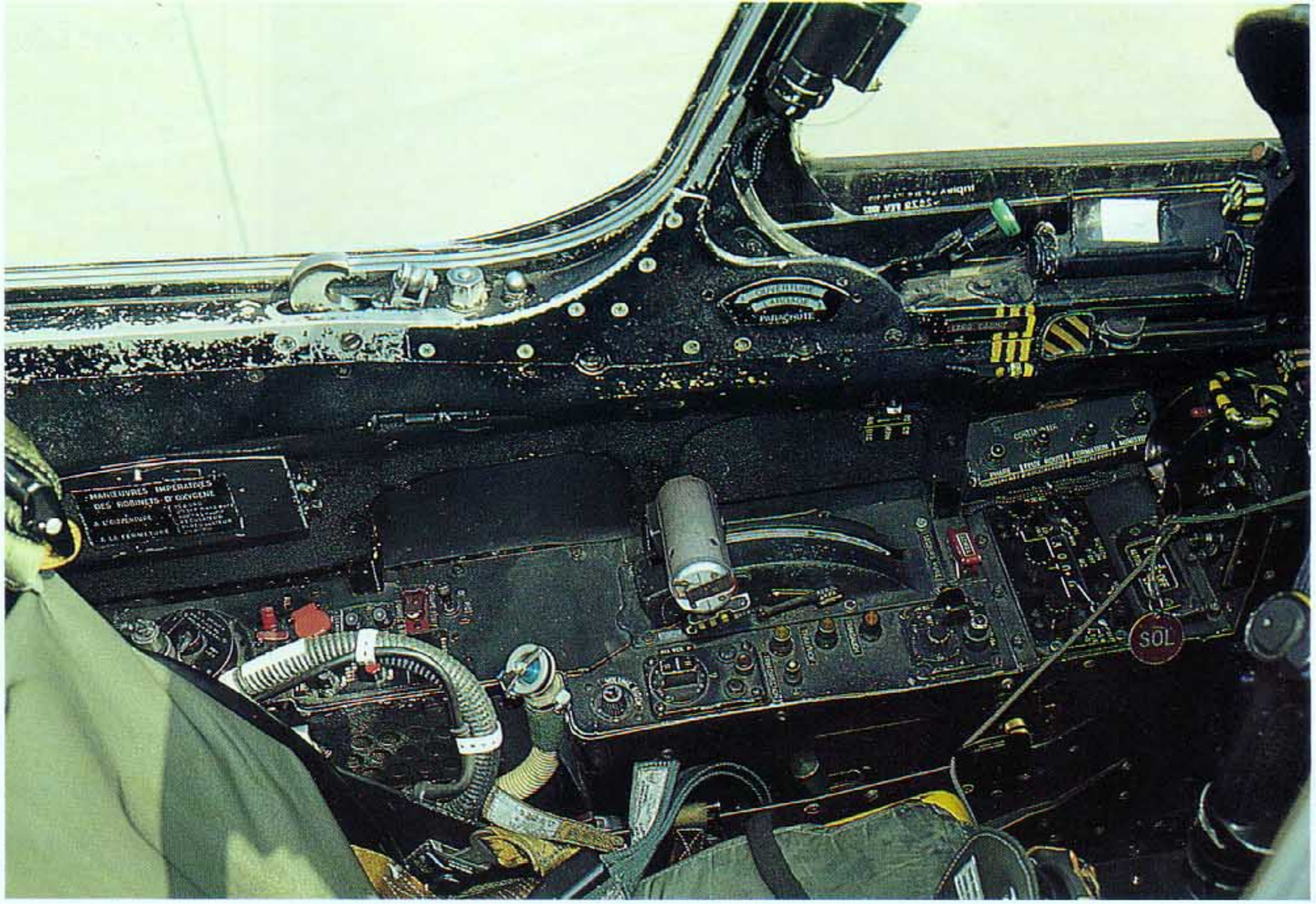
Mirage V, 42 Squadron, BAF Bierset

(Photo Marck DE BOECK)

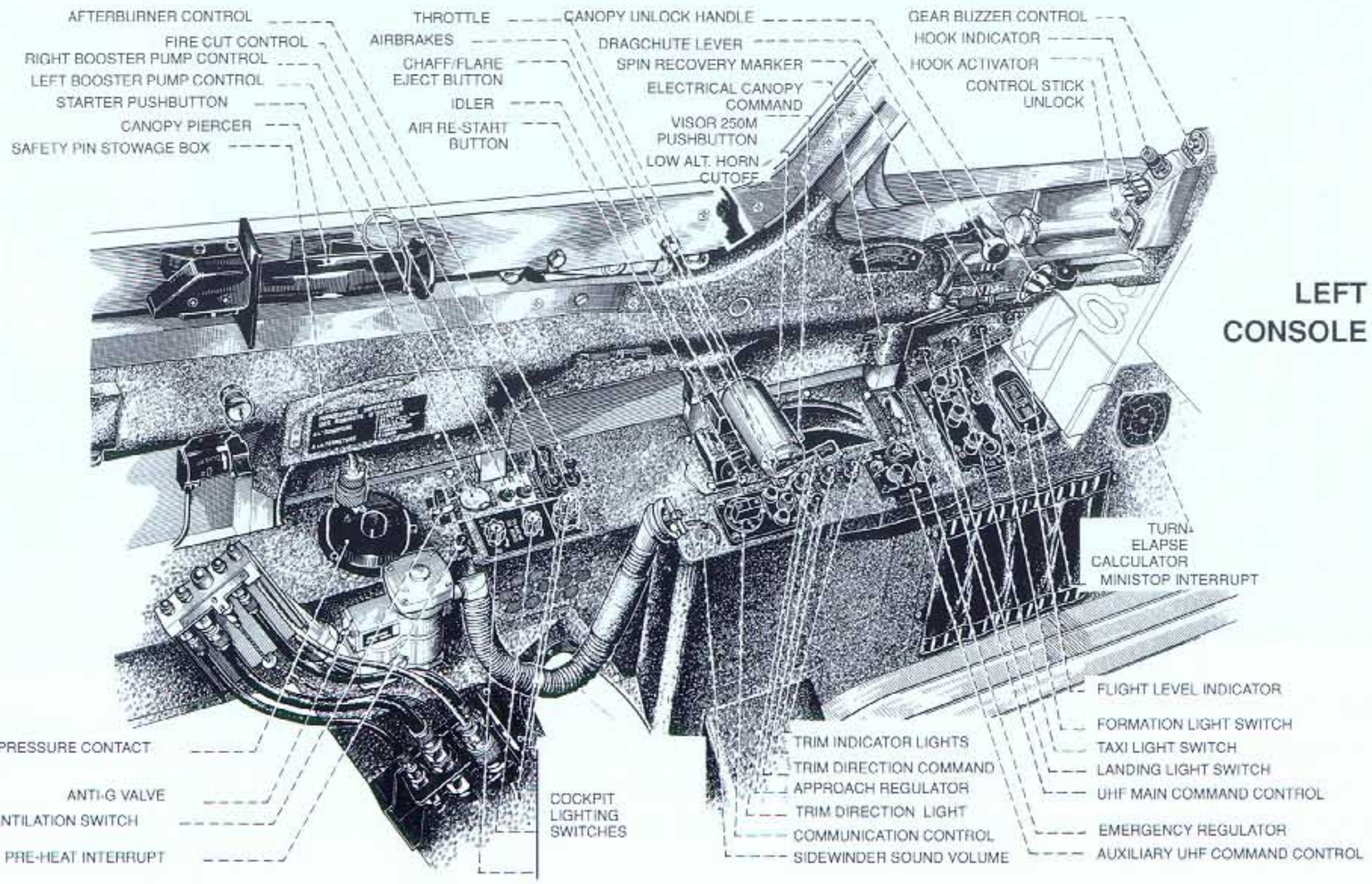
VERLINDEN PUBLICATIONS

To commemorate 70 years of Belgian Air Force commitment, special schemes were adopted by different aircraft, including this Mirage V BR from the 42nd Sqn which seems to be flying straigth out of hell with Cdt Luc "Lukke" Fobelets at the controls. (Photo by Marck De Boeck).

Another occasion and a different aircraft, but again a striking scheme applied to Mirage V BA of N° 8 Sqn, Bierset Air Base. Cpt Patrick "Pat" Bailly is trying his utmost to please several photographers on board of a BAF C-130 Hercules on this photo tour. (Photo by Marck De Boeck).



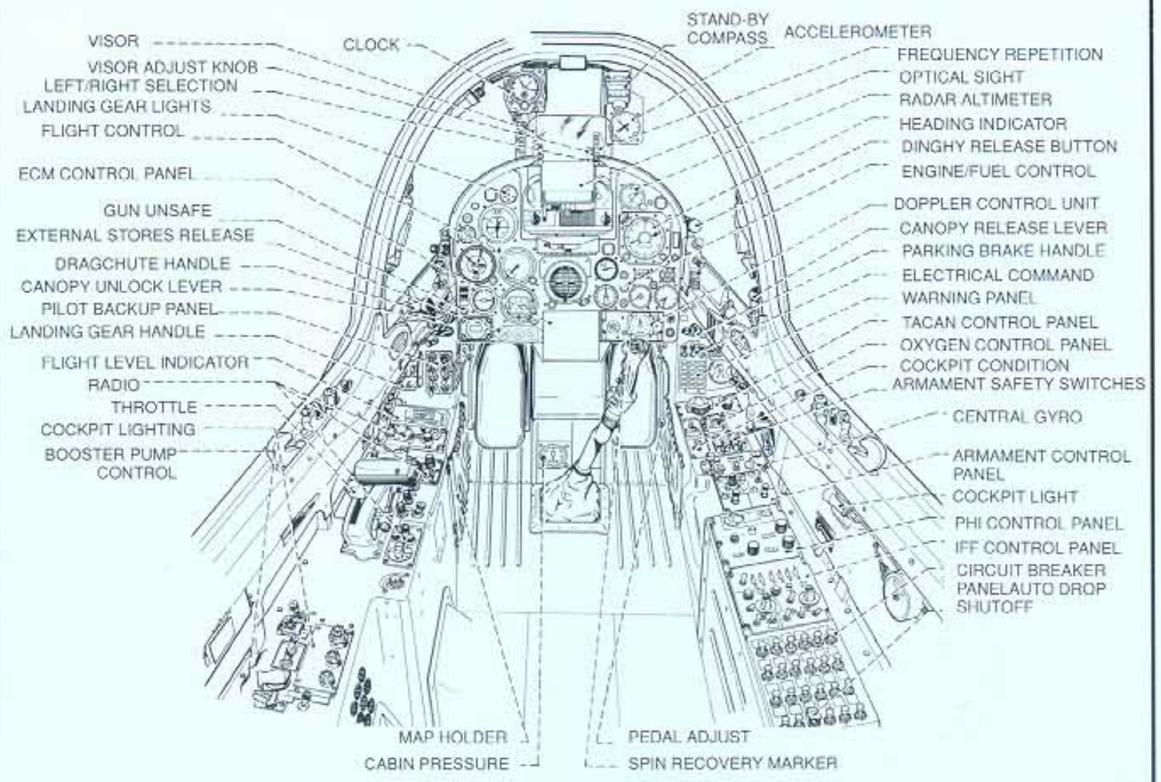
(Courtesy AVIONS DASSAULT)



LEFT CONSOLE

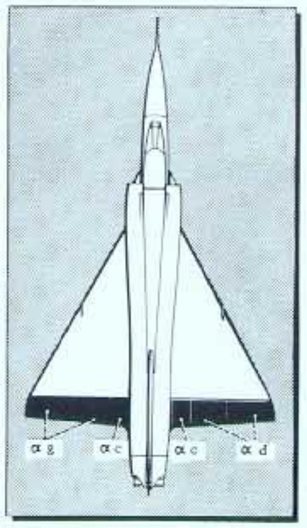
The Mirage V main instrument panel is a typical 1960's design and strongly resembles that of the Mirage III. The various instruments and their function are explained in the diagram at right.
Note the blue leg restraints of the ejection seat being draped over the instrument panel light.

COCKPIT LAYOUT

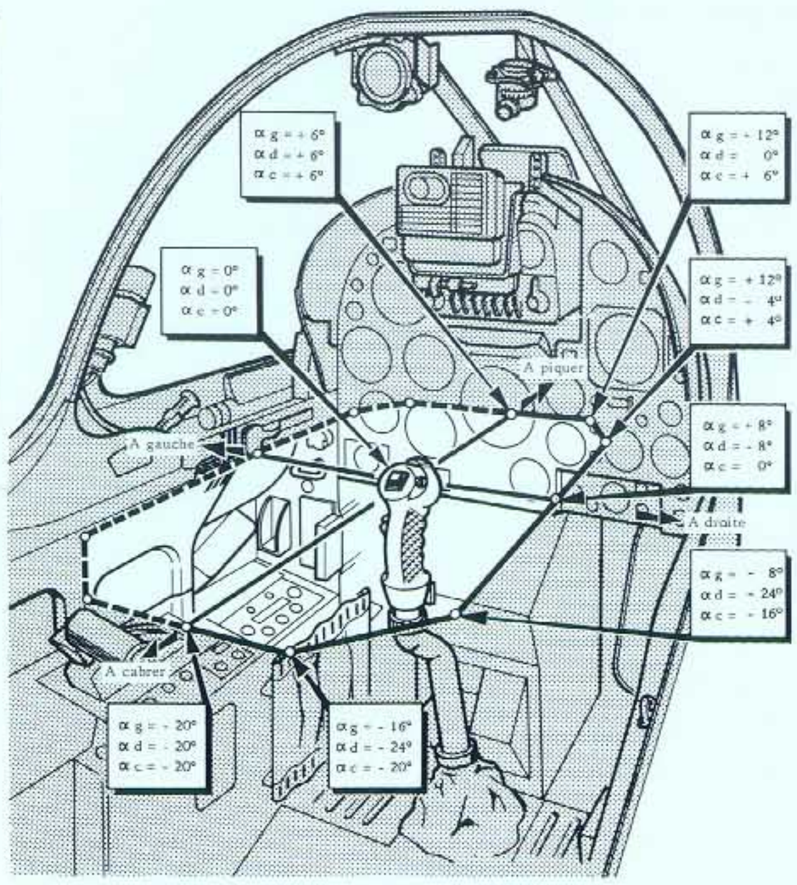


(Courtesy AVIONS DASSAULT)

CONTROL STICK ENVELOPE



ag = LEFT FLAP
ad = RIGHT FLAP
ac = INNER AILERON



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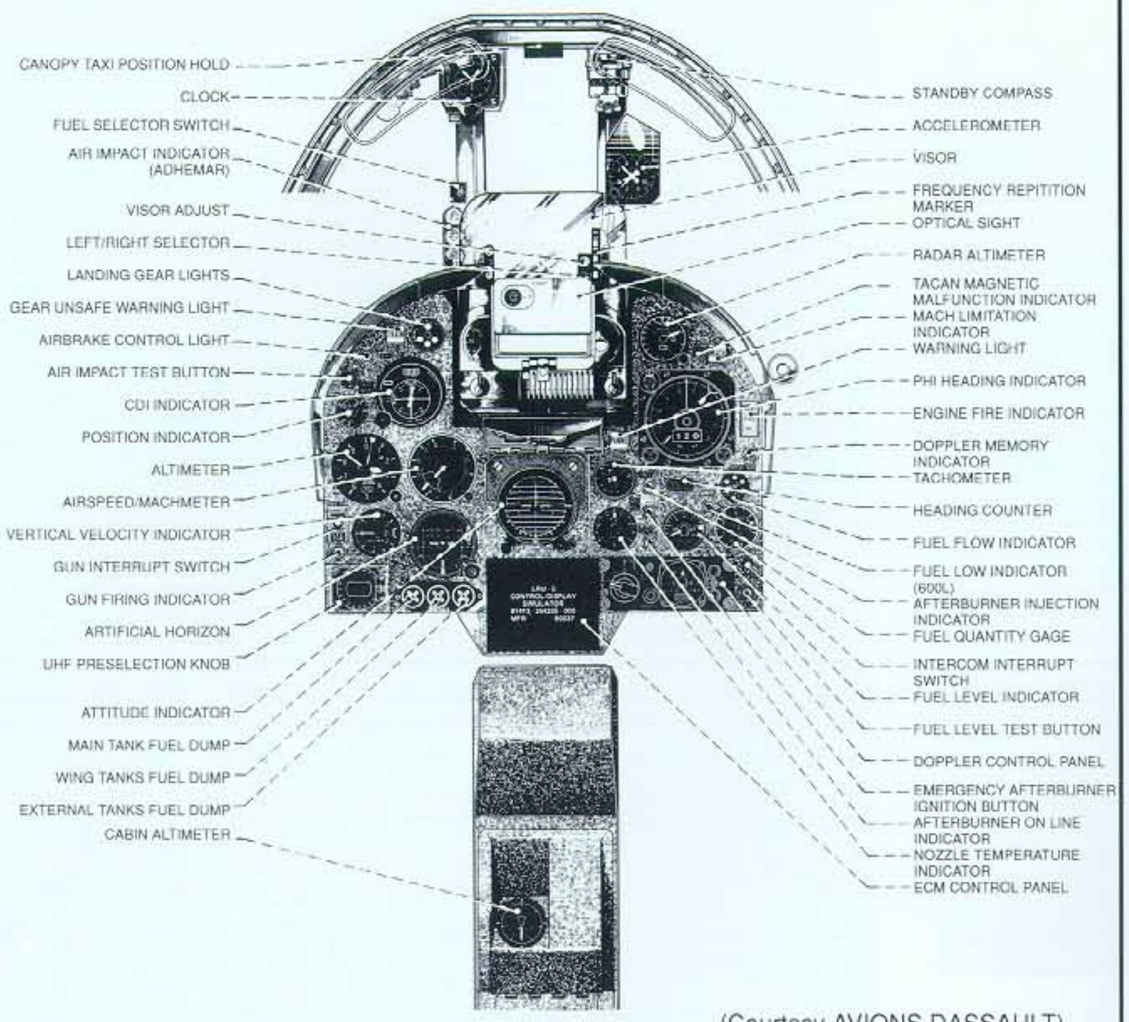
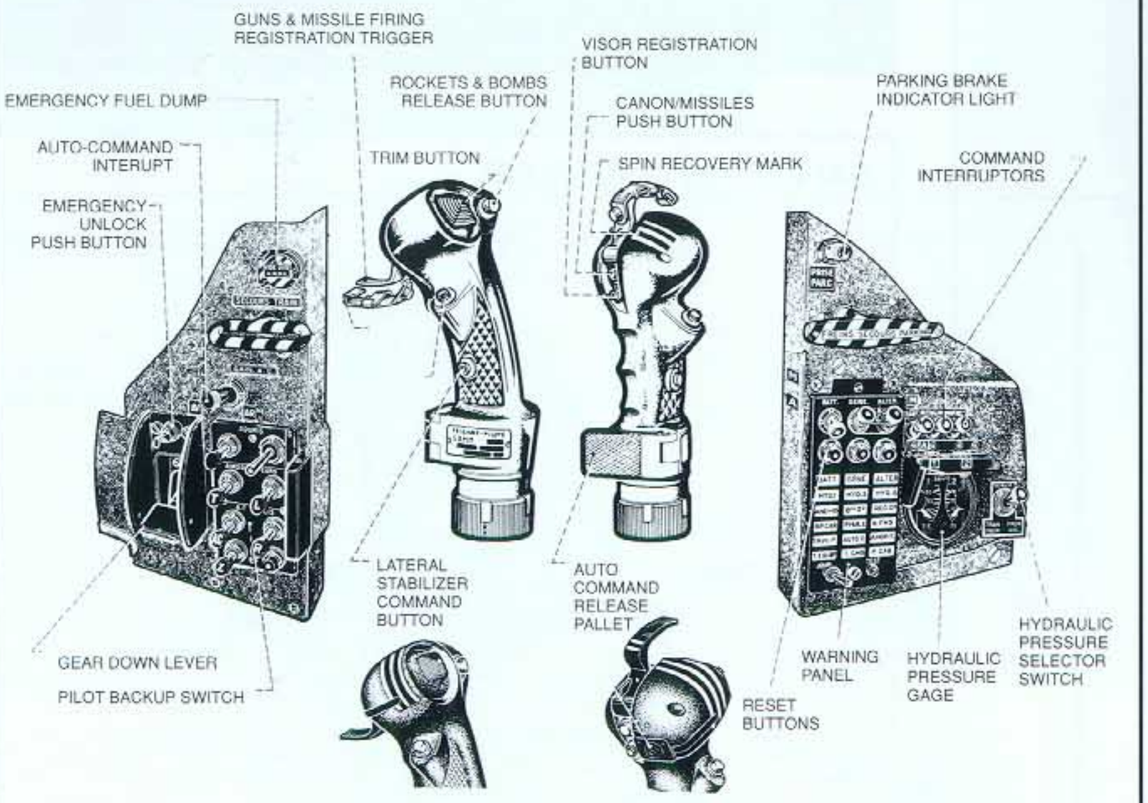


(Courtesy AVIONS DASSAULT)



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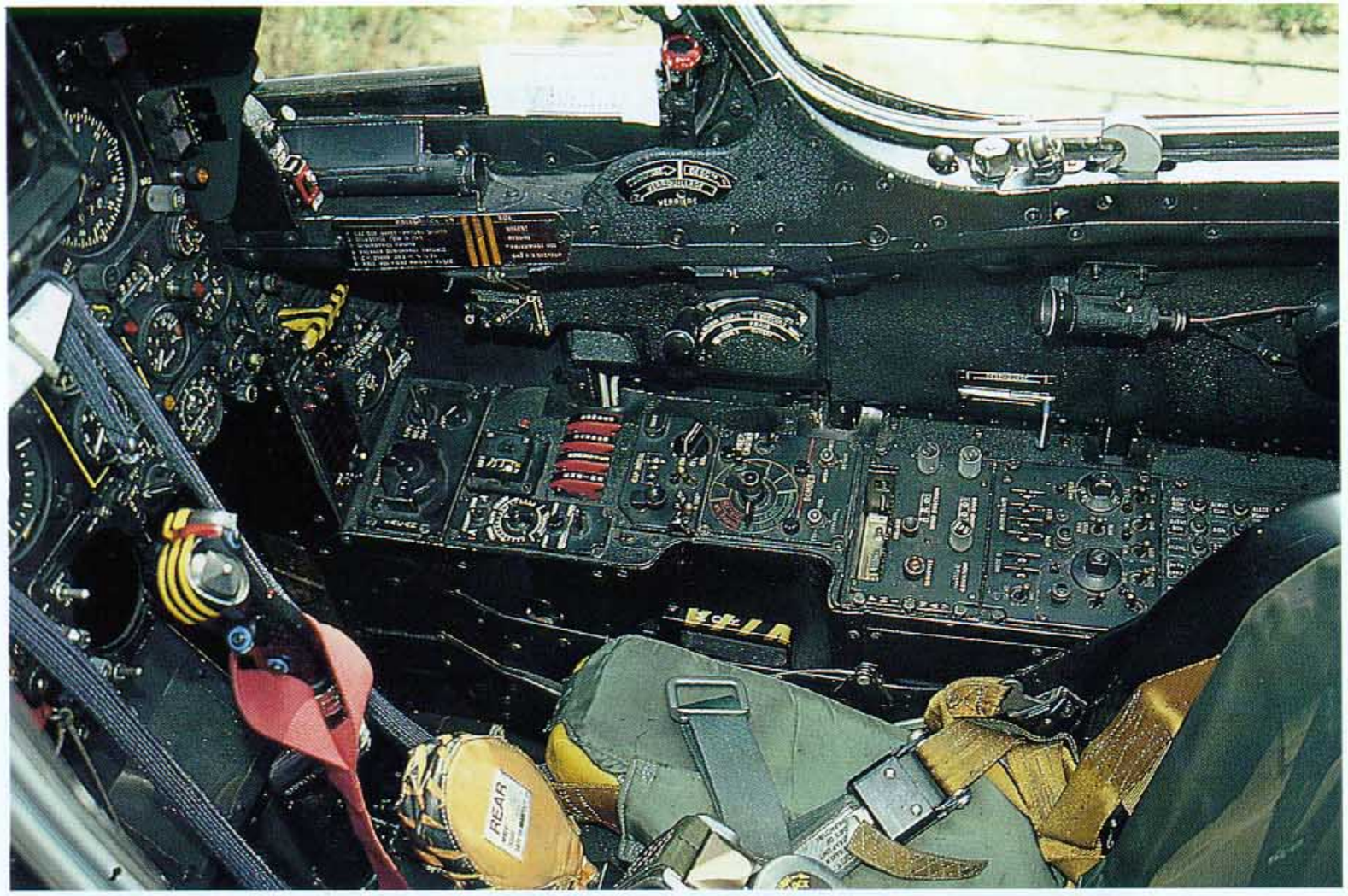
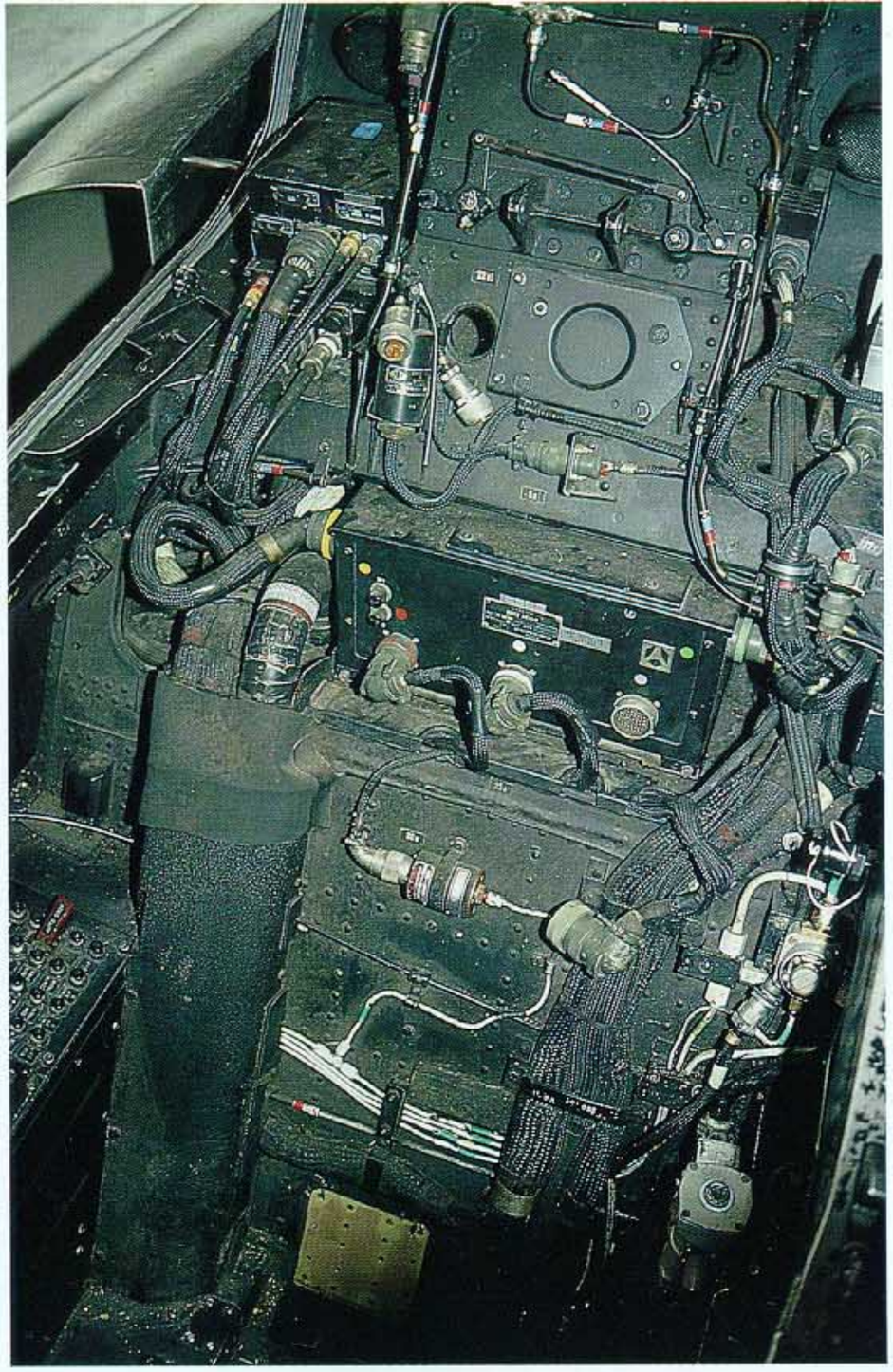
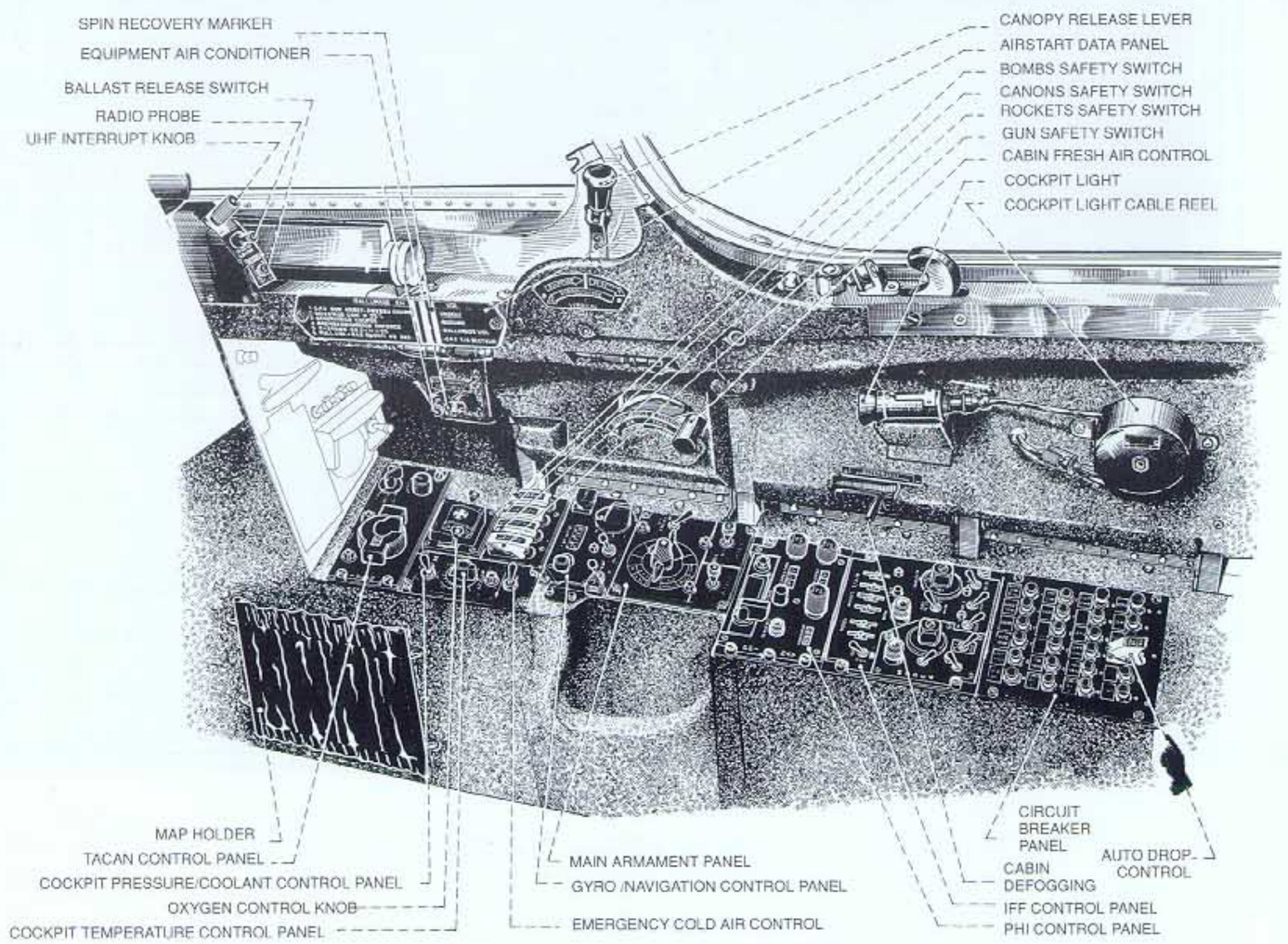




RIGHT CONSOLE



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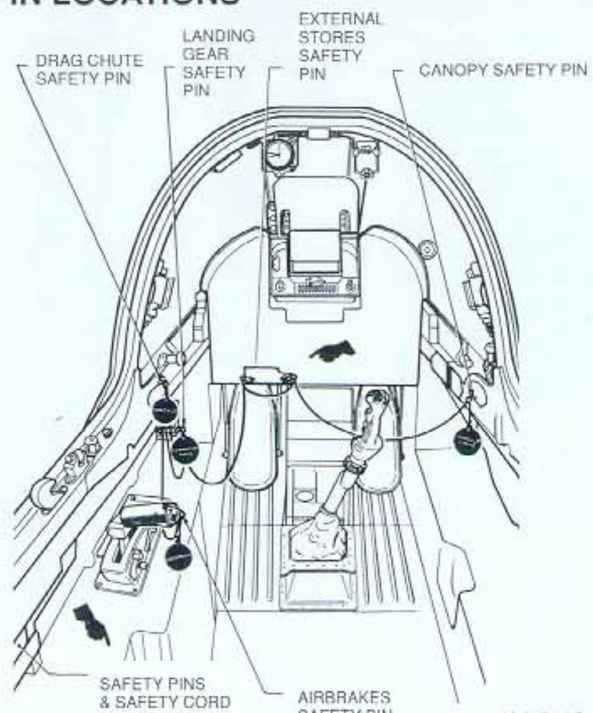
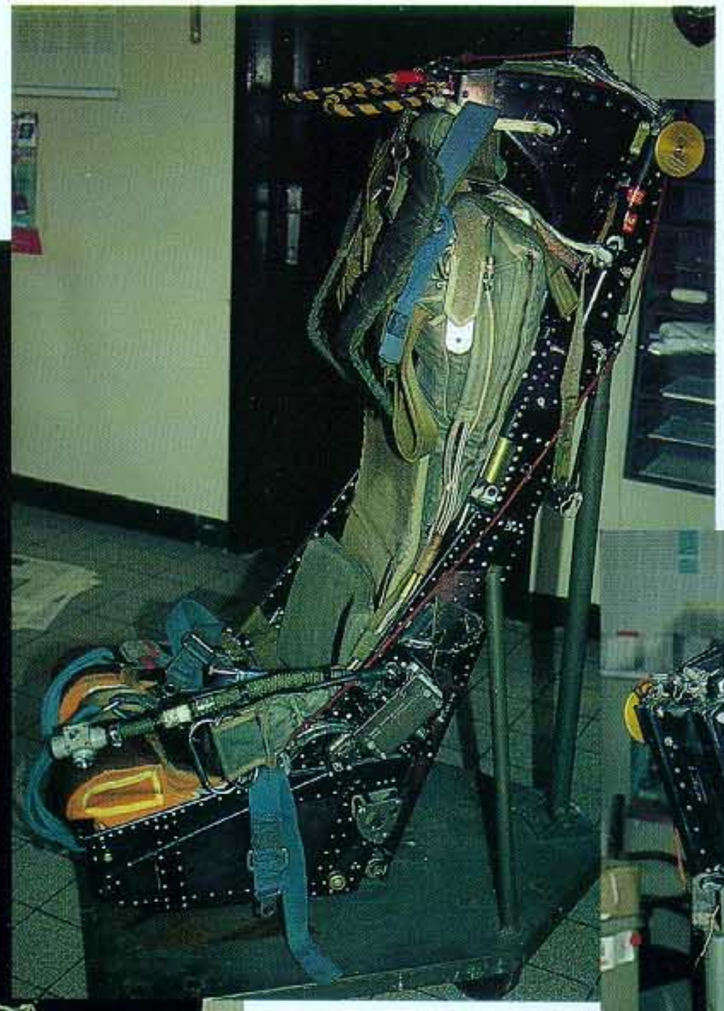
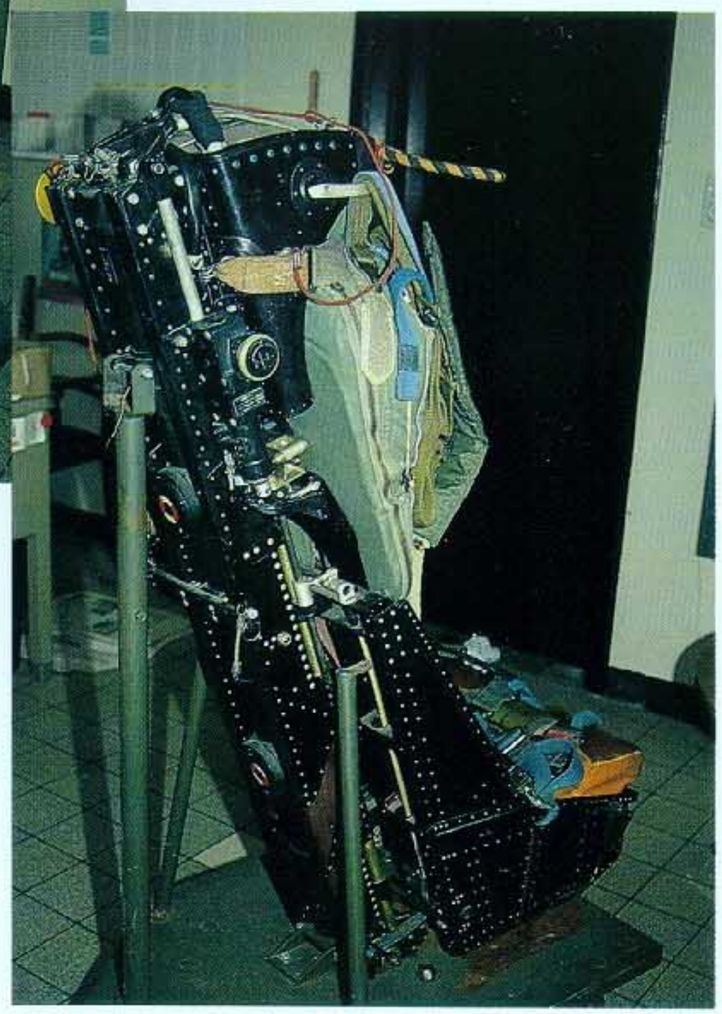
SAFETY PIN LOCATIONS



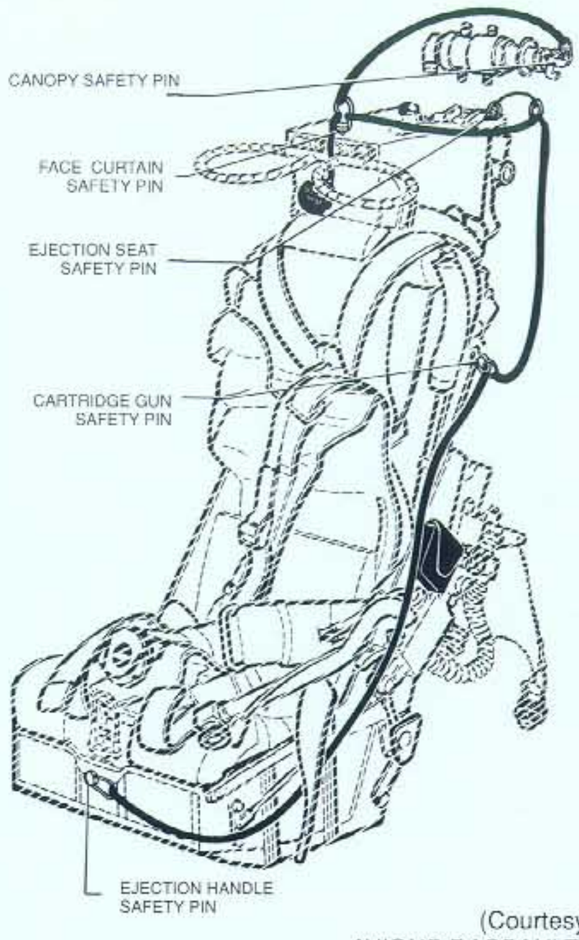
(Courtesy AVIONS DASSAULT



Before the installation of the new Martin Baker Mk10 seat (described on the next page), the Mirage V was equipped with a Martin Baker BRM4 seat using 3 cartridges to give it a velocity of up to some 24 meters/second (or about 4800ft/min).
This well used seat, which



MARTIN BAKER Mk 4

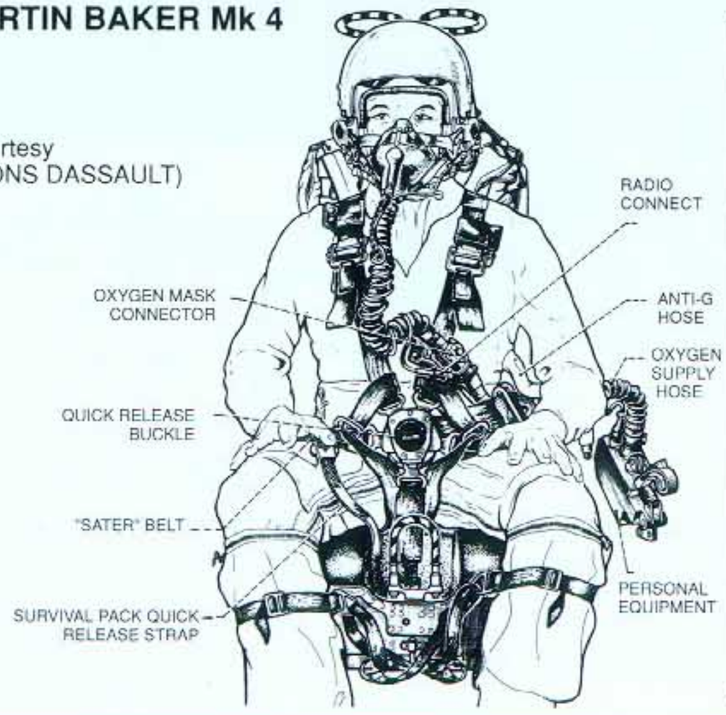


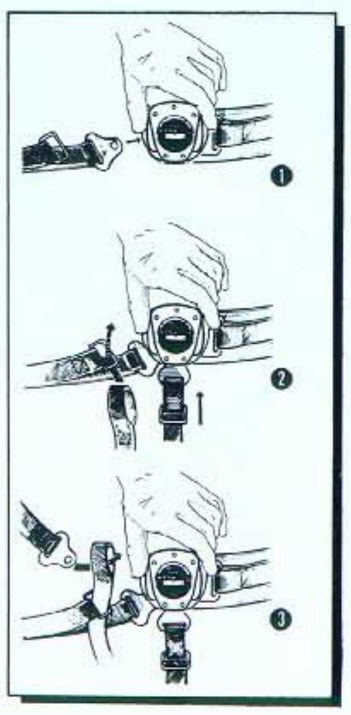
(Courtesy AVIONS DASSAULT)

has many flying hours behind it, is currently used as a display model at Bierset Air Base.
Most ejection seats are painted black, this one is no exception.

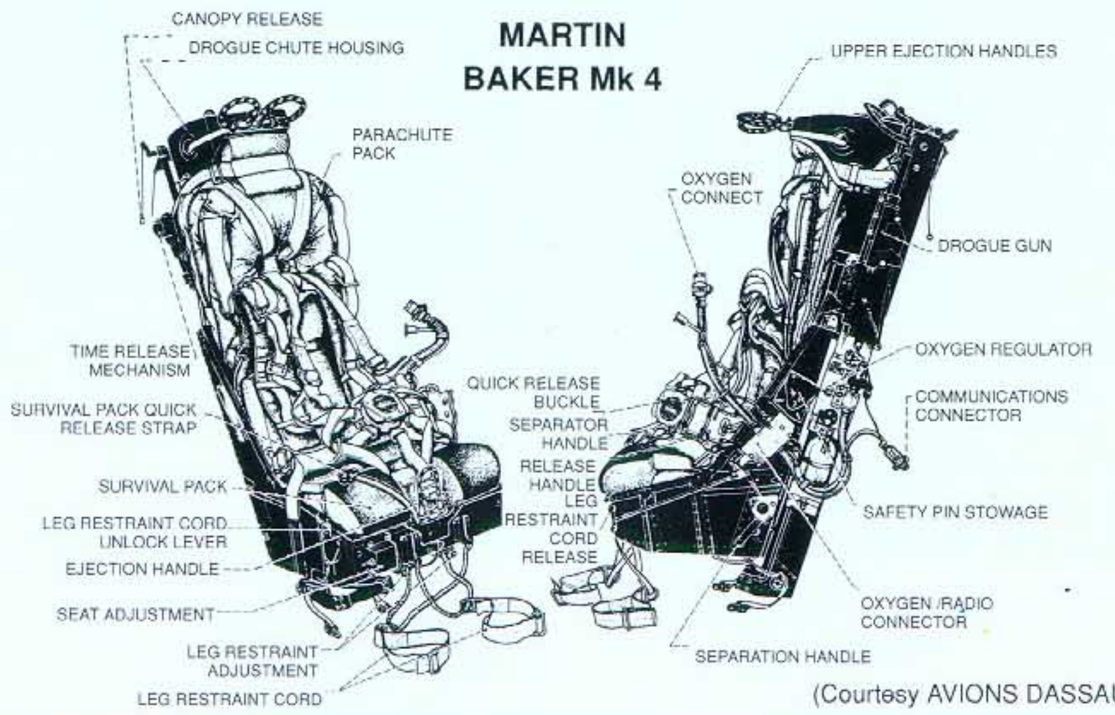
MARTIN BAKER Mk 4

(Courtesy AVIONS DASSAULT)

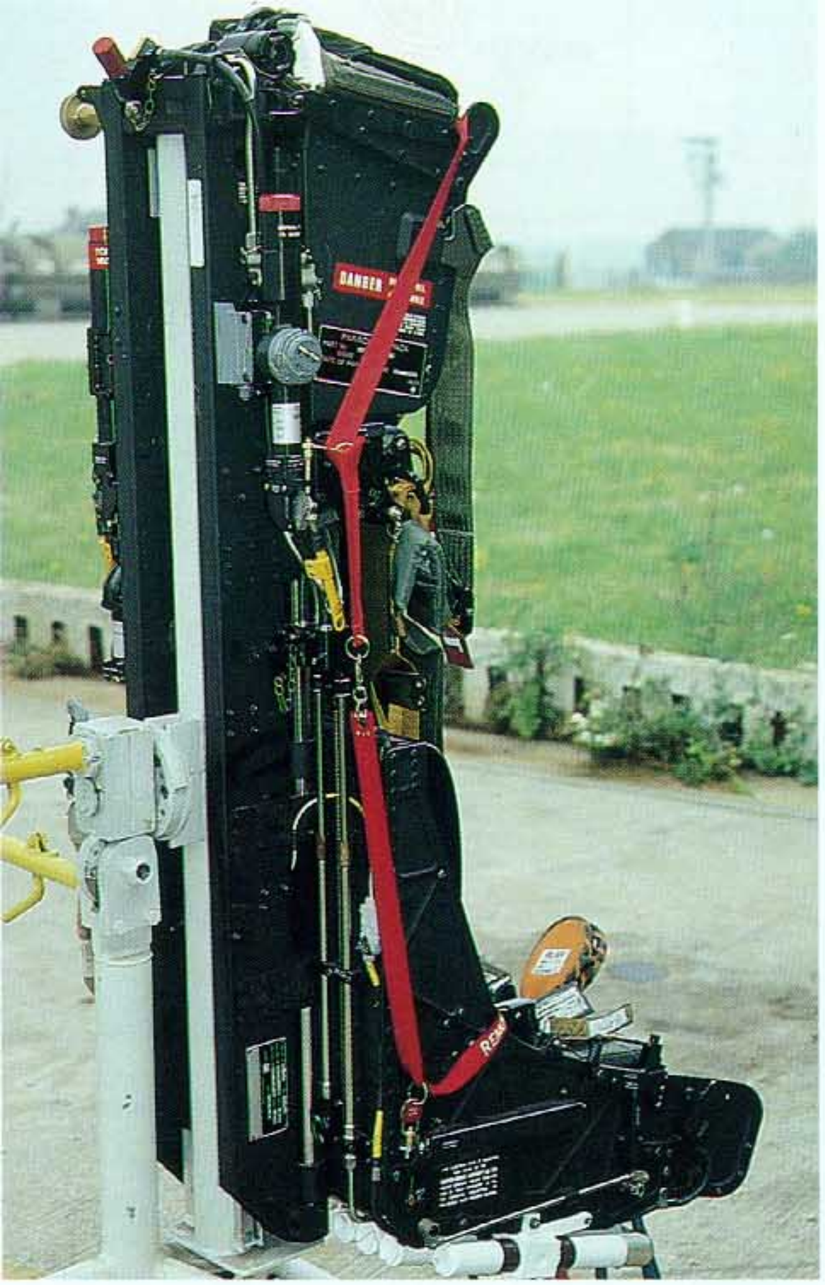


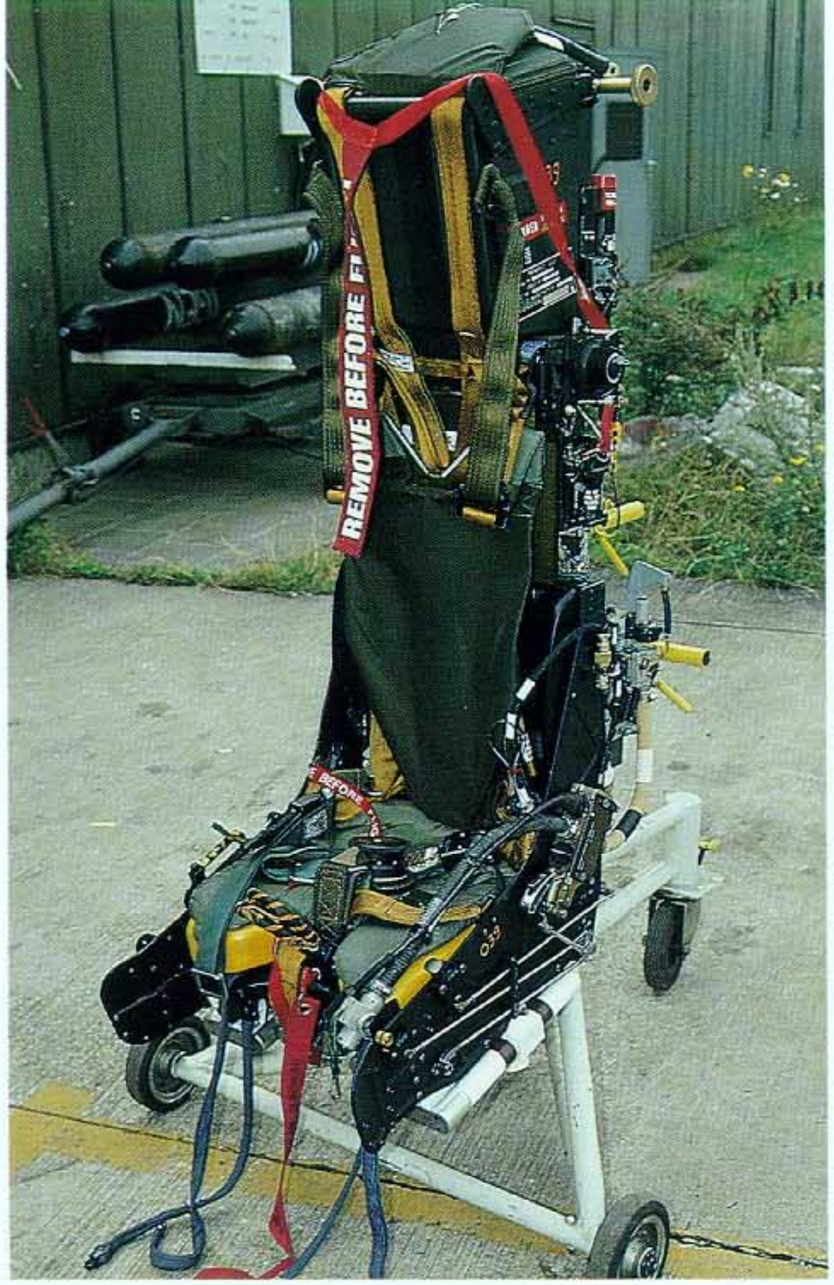


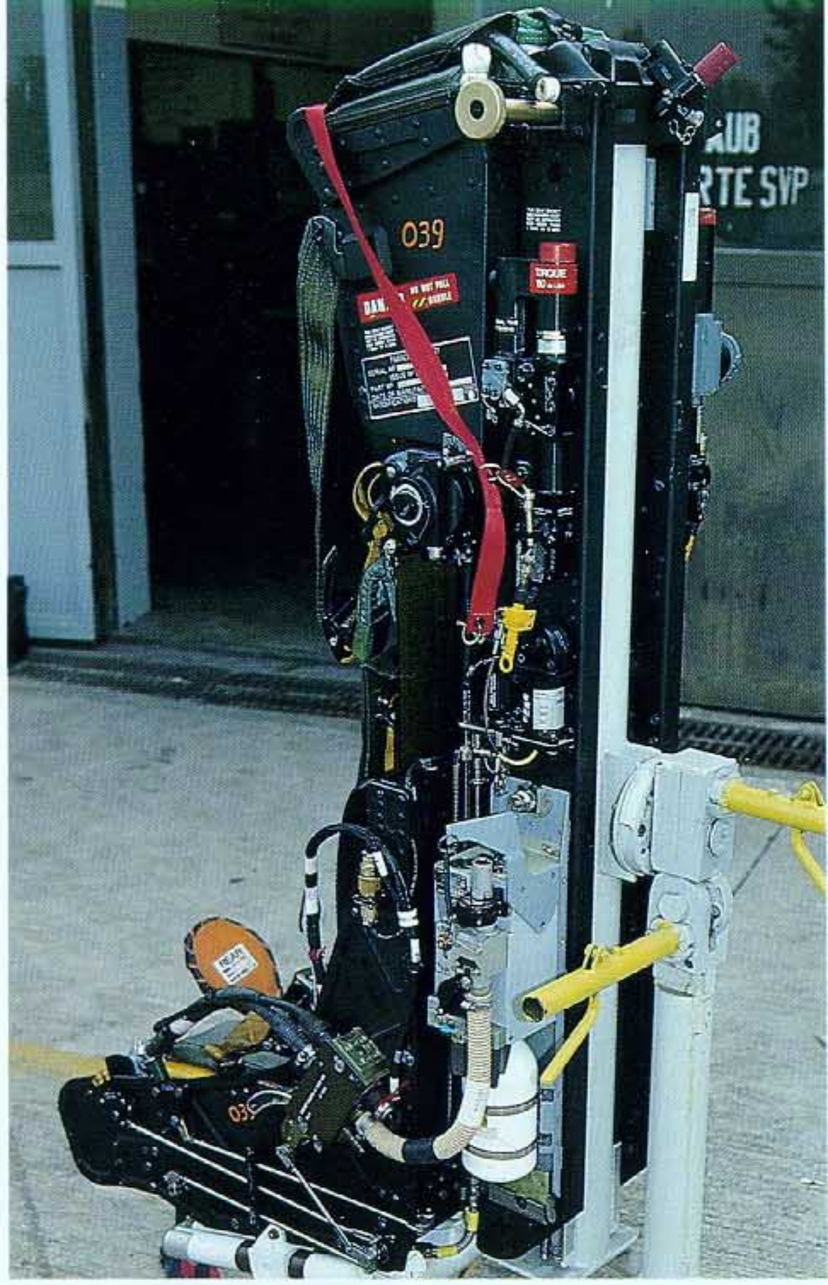
MARTIN BAKER Mk 4



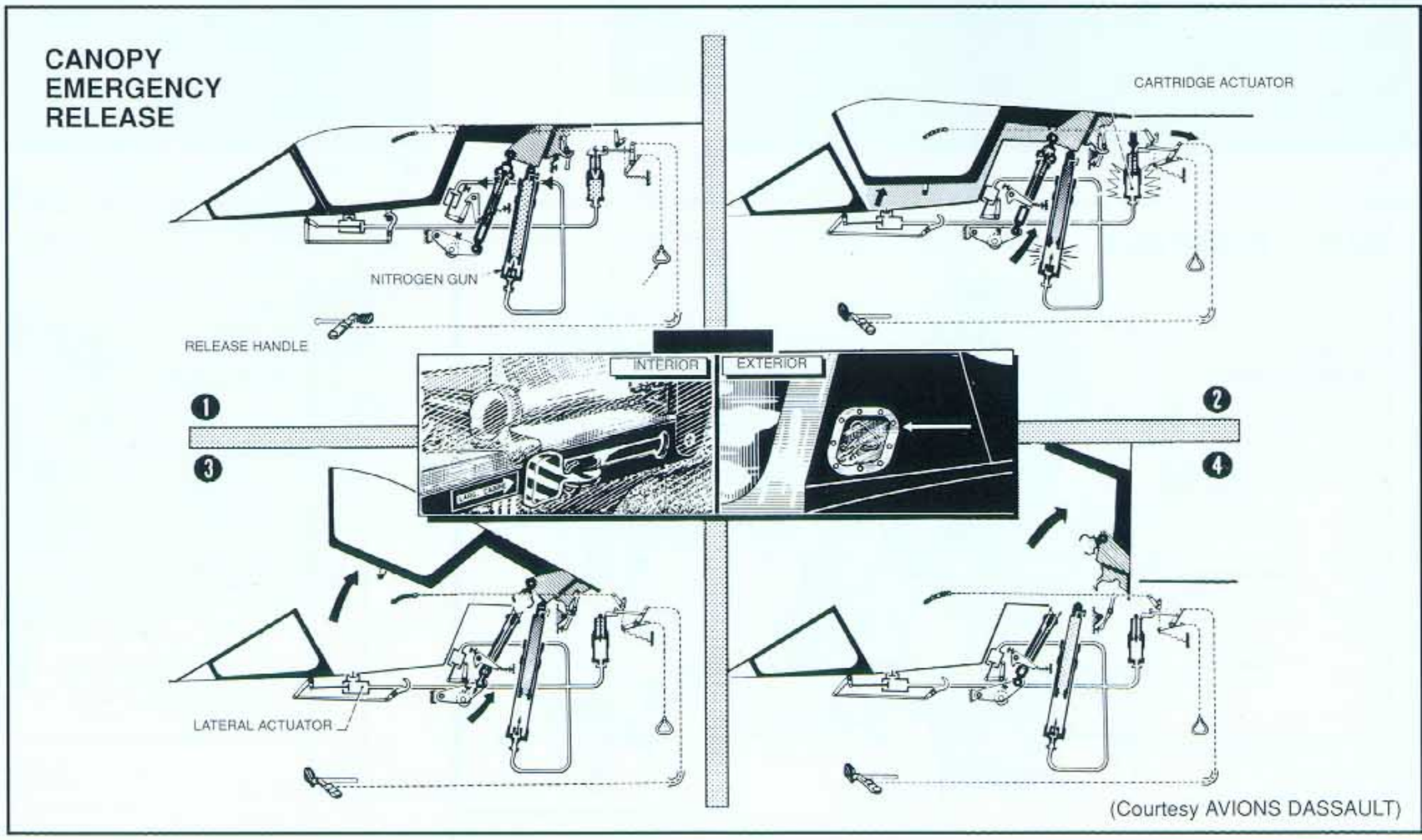
(Courtesy AVIONS DASSAULT)







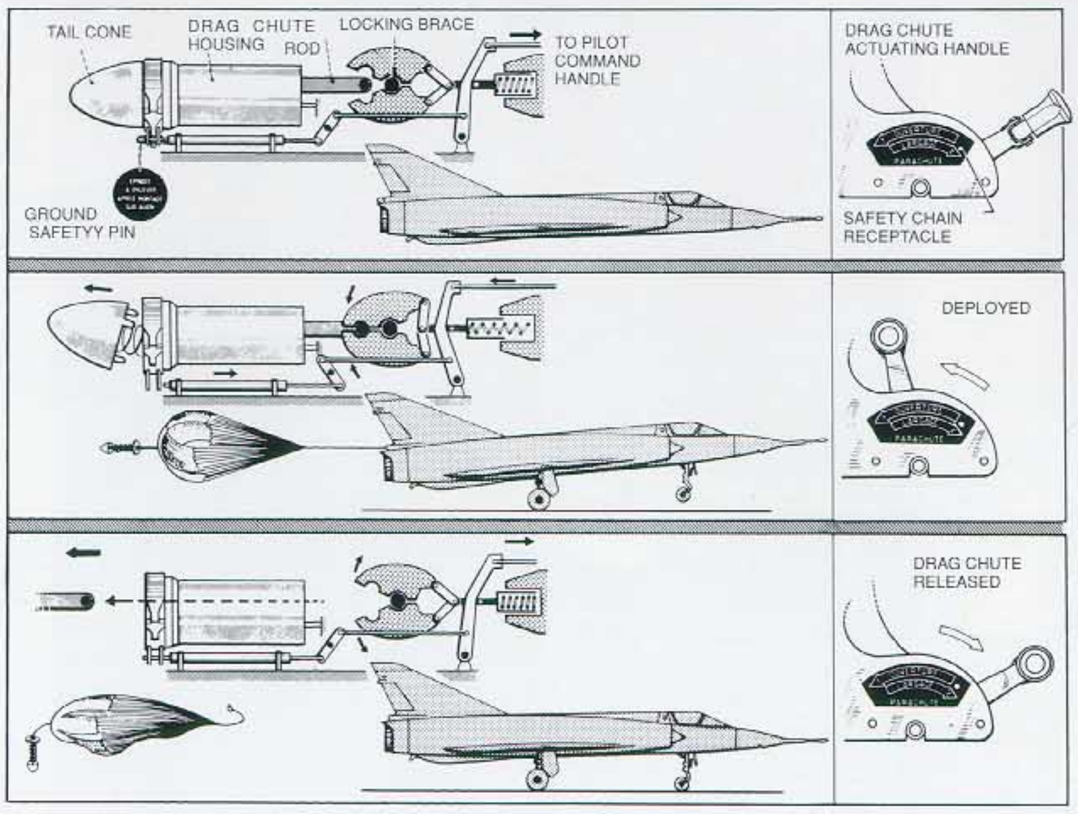
The installation of the new Mk10 seat was combined with the installation of a detonation cord inside the canopy glass.



One of the Belgian Air Force requirements at the time of purchase was the inclusion of a reconnaissance type aircraft. Unlike the Dutch (their northern neighbours) who were using recce pods on their F-5's, the Belgians preferred an aircraft with internally mounted cameras, saving all the external hardpoints to carry extra fuel tanks, increasing the surveillance range.
This aircraft, designated BR (for reconnaissance) was to serve with the 42nd Squadron, formerly based at Florennes Air Base until the installation of cruise missiles in the late 80's, which forced its transition to Bierset.

Downward and sideway looking VINTEN cameras are installed in the nose compartment of the BR. These cameras can be loaded and emptied within seconds by lowering the single door which is hinged at the rear.
Regular exercises are held to test the speed of passing data obtained during reconnaissance flights on to the ground troops.

The camera control panel is located below the main instrument panel, well within reach of the pilot.
Because of the relative small size of the Mirage cockpit, some instruments are mounted to the windscreen frame, partially blocking the pilot's "dead ahead" view.

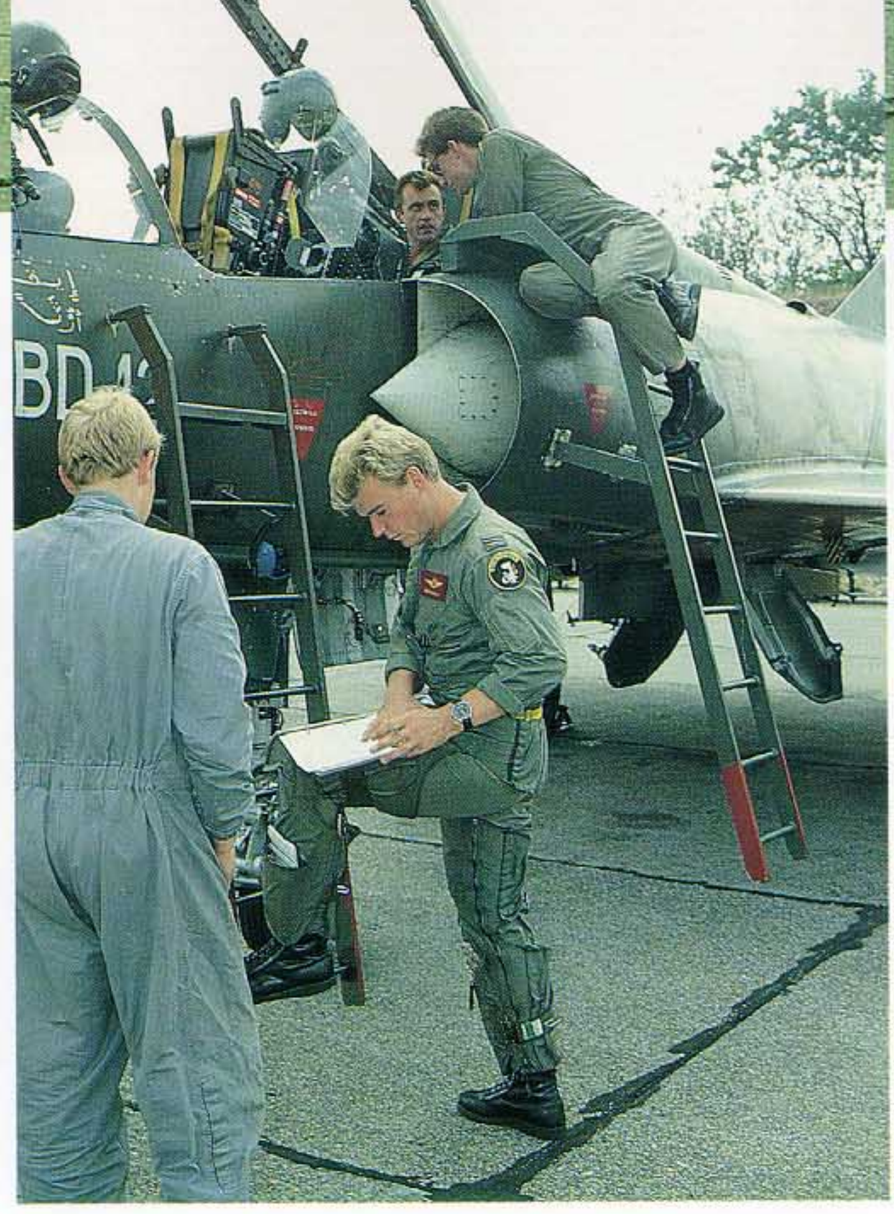


(Courtesy AVIONS DASSAULT)

(Top) Mirage V BR14 about to lower its nose gear onto Kleine Brogel's runway with the bright colored drag chute fully deployed.

(Above) A rare configuration comprising two 1700 liter fuel tanks on the wing pylons and an additional 1300 liter belly tank. Together with the 3000 liter internal fuel capacity, this adds up to a grand total of some 7000 liters of JP-4 jet fuel to be consumed on a single reconnaissance sortie.

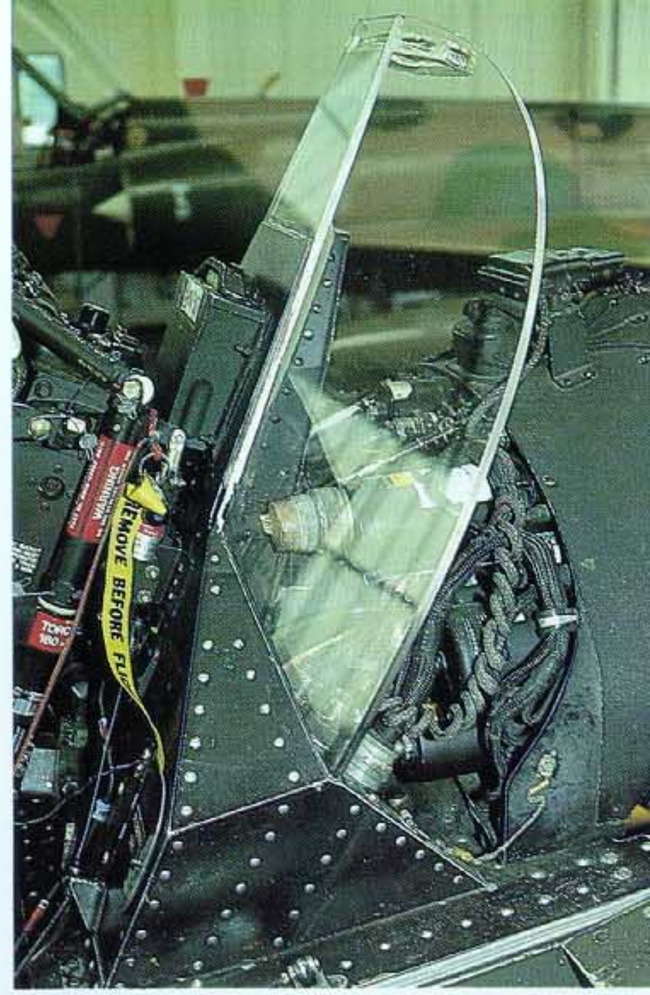

BD 11
BA 45
BD 11




BD 12

Together with the BR, the Belgian Air Force ordered some 16 twin seat trainers featuring the same basic airframe as the single seater but with an additional cockpit in tandem. These aircraft are used to train newcomers from Brustem Air Training School (where they flew their first jet, the Alpha Jet) or to fly familiarization sorties with foreign pilots on squadron exchange such as this Italian G-91 pilot about to take off with Cpt Michel "Bouilly" Van Pottelsberghe at the controls (bottom right photo on the previous page).
The picture below shows the 1700 liter pylon tank being topped upon return from the cross-country flight. Instant refueling is always done to avoid condensation of the fuel system.
Note the Mirage has no single point refueling receptacle.

(Right) To protect the back seater in case of ejection a solid three-piece perspex window is mounted in front of the aft instrument panel housing (again without any cover). Note the yellow "Remove Before Flight" tag on the ejection seat.

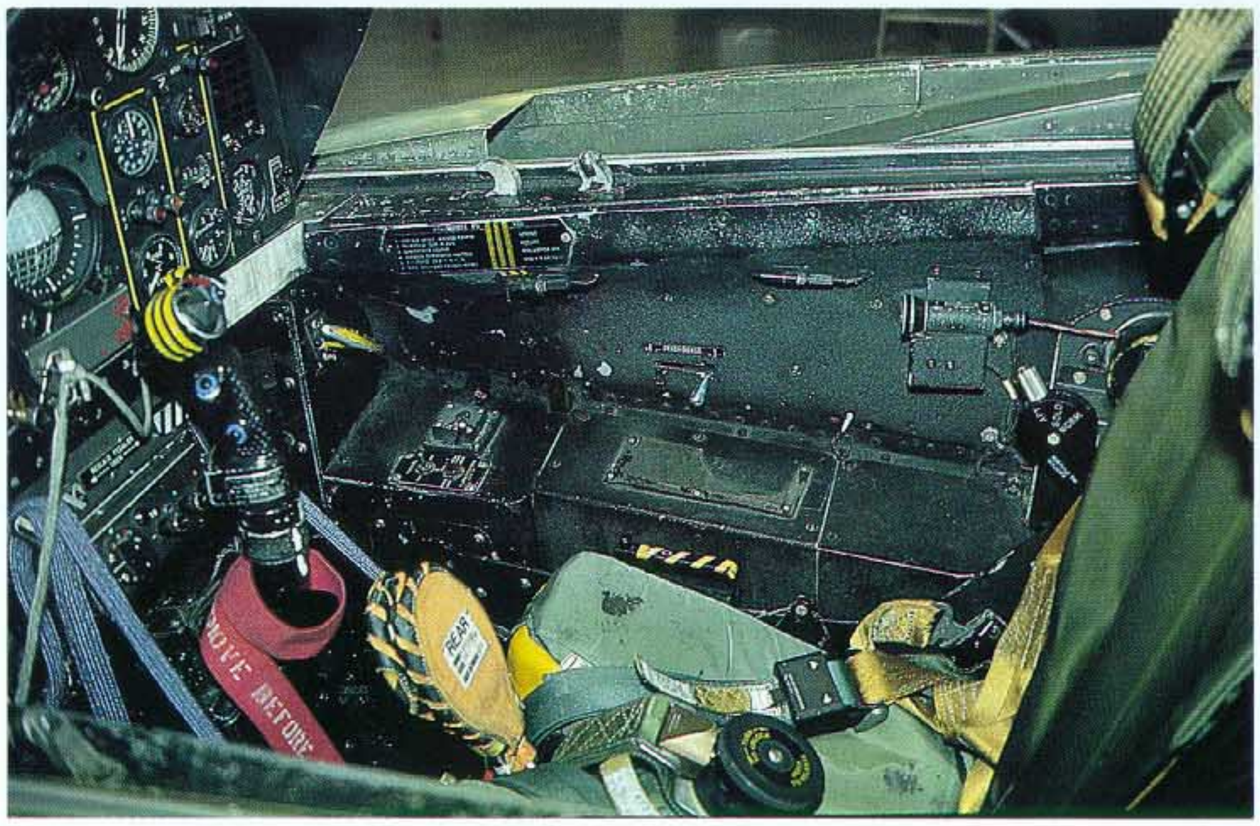


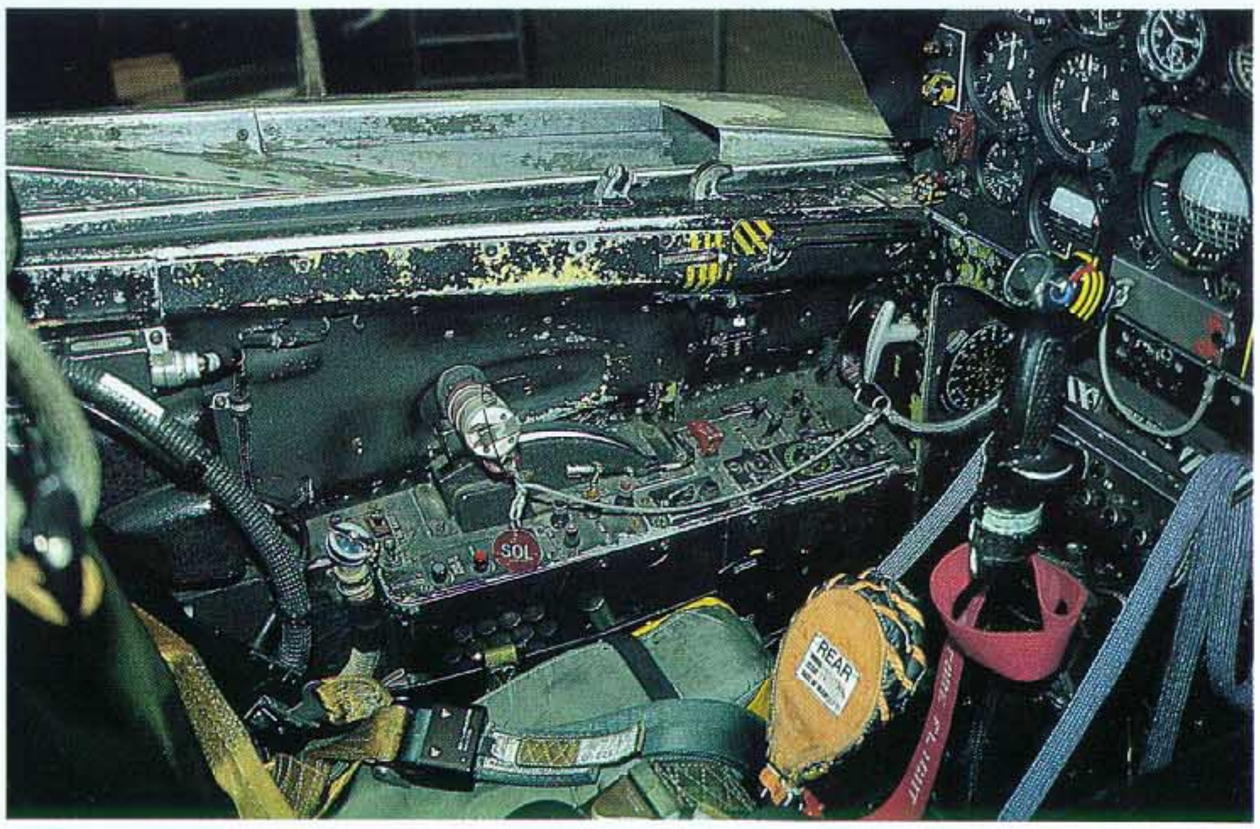
(Above) A photo to show the twin seat Mirage has the same front cockpit as the single seat variant. Of special interest is the small placard holding radio call signs just in front of the canopy frame on the right and the area underneath the ejection seat revealed in this view.

(Right) The rear bulkhead of the front cockpit with the seat removed showing all detail. Note the position of the air intake in relation to the cockpit and compare with the BA type.

(Above) The rear cockpit main instrument panel viewed from the air intake. Note the canopy piercers on top of the front seat and the "ground securing line" running through various activating handles on the side console and the main panel. Also note the reinforcement on the aft canopy frame to fit the air intake contours.
(Right) The aft seat rear bulkhead holds some control units and the canopy actuators on left and right. Also note the rear part of the canopy has the same detonating cord as the single seat version.

(Bottom, left and right) Few control panels can be found on the rear cockpit side consoles.





The limited number of external stores had the French looking for additional hardpoints such as the ones on the inner pylon fuel tank. A side-mounted launching rail on the outer wing pylon was designed to use the deadly "Matra Magic" missile.
(All photos by Marck De Boeck)

MIRAGE V/50 FRENCH AIR FORCE

Another country to fly the Mirage V was Israel who already used the Mirage III successfully and who were looking for additional aircraft. Because their pilots were already familiar with the flying characteristics of the Mirage (and because of a worldwide arms embargo), the IDF once again turned to France with the request for a simplified version of the Mirage III, of which most expensive avionics and weapon systems were quite useless in the Middle East environment. The deletion of the "Cyrano" radar enabled the installation of a more aerodynamic nose section which typifies the Mirage V. Of the 50 aircraft ordered, none were delivered because France also was to follow the arms embargo shortly before the Six Day War in 1967.
Other countries were to benefit from this but the Armée de l'Air decided to create EC 3/13 "Auvergné" squadron which started operating the Mirage VF from Colmar.
Some of their aircraft are shown here during a stop at Bierset, which is fully capable of handling this French fighter.
(Photos by Marck De Boeck)

In the wake of the Gulf War many NATO countries were asked to sent in troops or aircraft to support the massive effort of the US Armed Forces engaged in Iraq and Kuwait. Together with some Navy minesweepers and patrol vessels, Belgium ordered the 8th TFS and 42nd TFS (operating from Bierset) to convert temporarely to Diyarbakir Air Base in Turkey to fly border patrol sorties and in case of hostilities eventually take evasive action against the Iraqi's.
The photo at left shows the Mirages arriving at Diyarbakir under the watchfull eyes of Turkish F-16 pilots and groundcrew.
The large picture shows two Mirages returning from a late afternoon sortie, moments before sunset which comes suddenly in the Middle East.
(Photos by Marck De Boeck)

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