POLARIS

RESCUE HAZARDS
MiG-29
ALPHA JET
L-39

V1

NOTES

ALL POLARIS JETS HAVE OPERABLE EJECTION SEATS.

ALL JETS HAVE MANUALLY OPERATED CANOPIES.

ONLY THE ALPHA JET HAS EMERGENCY CABLES THAT WILL SHATTER THE CANOPY WHEN PULLED.
(SEE PHOTO IN ALPHA JET SECTION)

UNLESS YOU'RE COMPLETELY FAMILIAR WITH EACH JET, DON'T TOUCH ANYTHING PAINTED RED OR BLACK/YELLOW.

FUEL SHUTOFF LEVERS/SWITCHES ARE LOCATED BEHIND THE THROTTLES

QUESTIONS? CONTACT POLARIS SAFETY
PAUL KINGSLEY (208-340-0300). KINGMAN57@YAHOO.COM

POLARIS

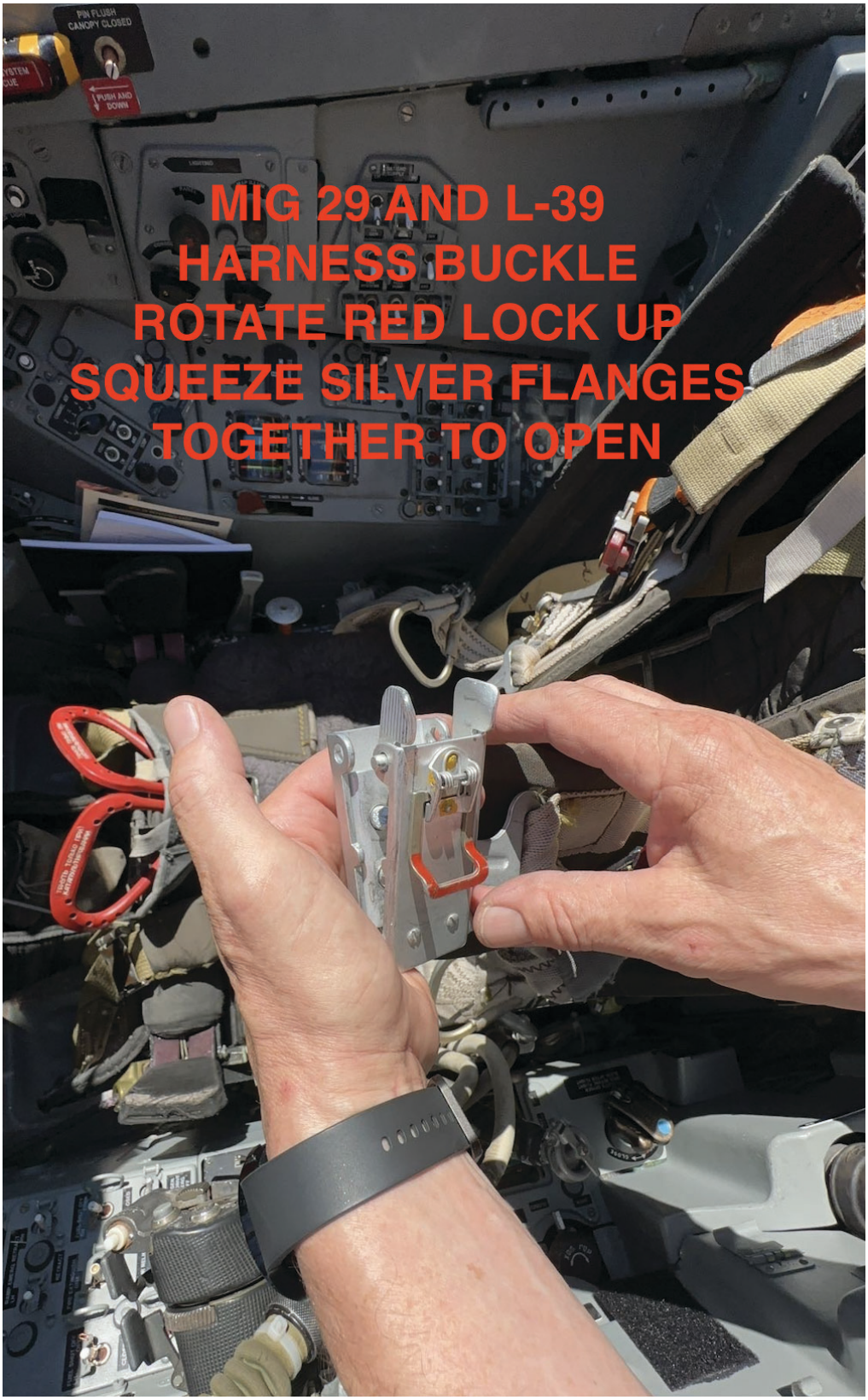
MiG-29

Mikoyan delivered their first of fourteen prototypes in the first "Aircraft 901" which more or less mimicked the design lines as found in production-quality MiG-29s to a certain extent. One major difference came in the well-forward positioning of the nose landing gear leg. Western observers were convinced that the new Soviet fighter featured "swing wing" (or variable geometry wing) technology to match the F-14 Tomcat, General Dynamics F-111 or the British Panavia Tornado but this was not the case - wings on the MiG-29 prototype were fixed in place and stemmed from a fixed fuselage root extension area - perhaps giving the impression to some of swing wings being used. The cockpit was held well-forward in the design with excellent visibility throughout. Large rectangular intake openings, slightly canted inwards at their top edges, were fitted under the fuselage and straddled the central tubular fuselage nacelle. Engines were low-set in the fuselage with wings shoulder-mounted. There were a pair of vertical tail fins outboard of each engine mount. Wings featured noticeable sweep along the leading edges and lesser sweep along the trailing edge. Horizontal tailplanes were fitted well-aft in the design, extending beyond the reach of the jet exhaust rings. The undercarriage was fully-retractable and of the tricycle arrangement with a pair of single-wheeled main landing gear legs and a double-wheeled nose landing gear. So as to not ingest potentially harmful field debris, the intakes could be sealed, taking in air from the leading edges during startup and taxiing actions. In many ways, the finalized form was not wholly unlike the original MiG-29 vision that borrowed so heavily from the MiG-25 - just excessively streamlined for a new generation of Soviet airman.


MIG29
EJECTION HANDLES
TO SAFE SEAT
PUSH SILVER SERRATED TAB DOWN
ROTATE HANDLES FORWARD

MIG 29
EJECTION SEAT


PIN FLUSH
CANOPY CLOSED
DOUBLE SYSTEM
RESCUE
CANOPY EMERG
JETTISON
PUSH AND
DOWN
MIG 29
CANOPY JETTISON
AND EJECTION
SEQUENCE
HANDLES
DON'T TOUCH!


PIN FLUSH
CANOPY CLOSED
PUSH AND
DOWN
MIG 29 AND L-39
HARNESS BUCKLE
ROTATE RED LOCK UP
SQUEEZE SILVER FLANGES
TOGETHER TO OPEN

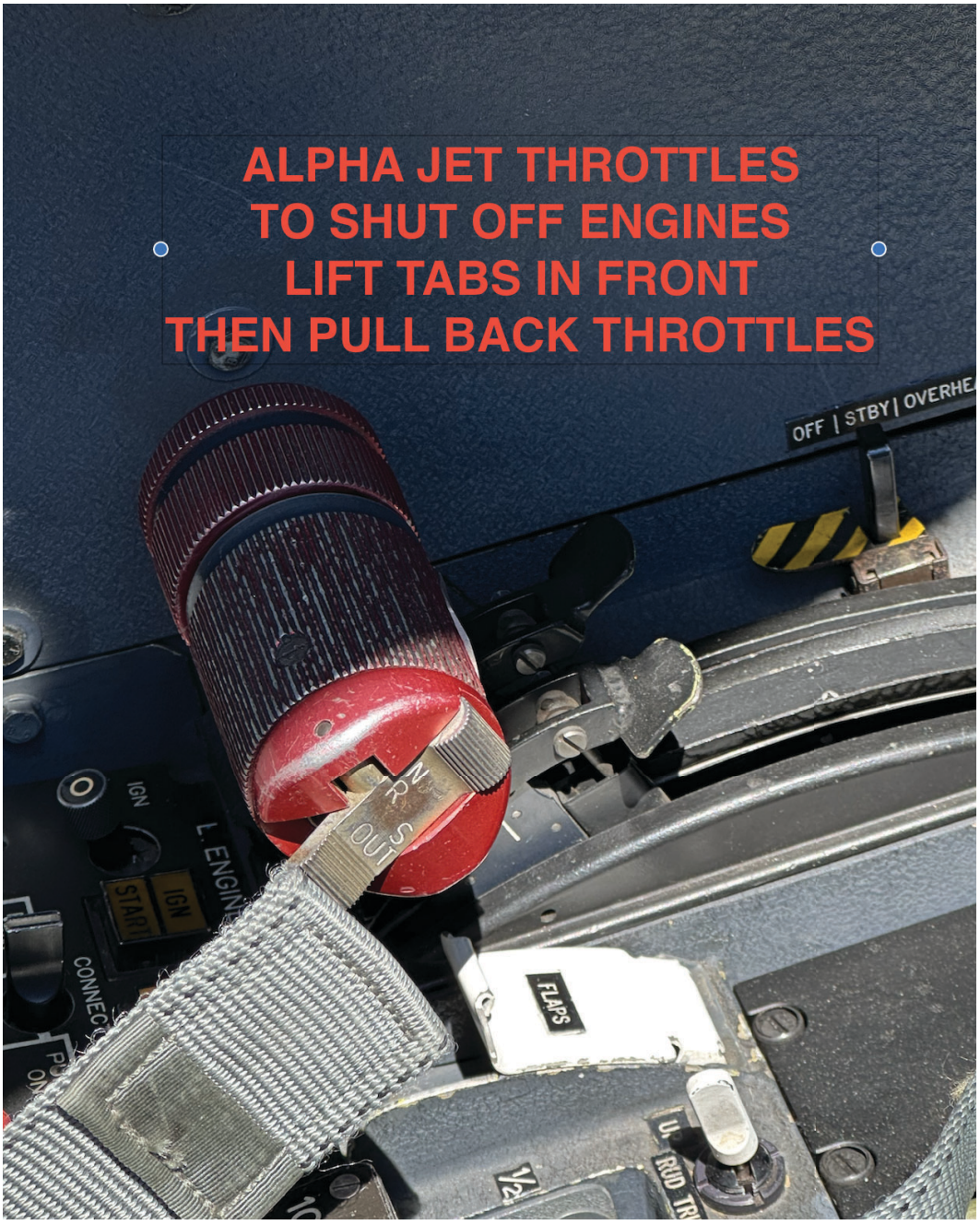
POLARIS

ALPHA JET

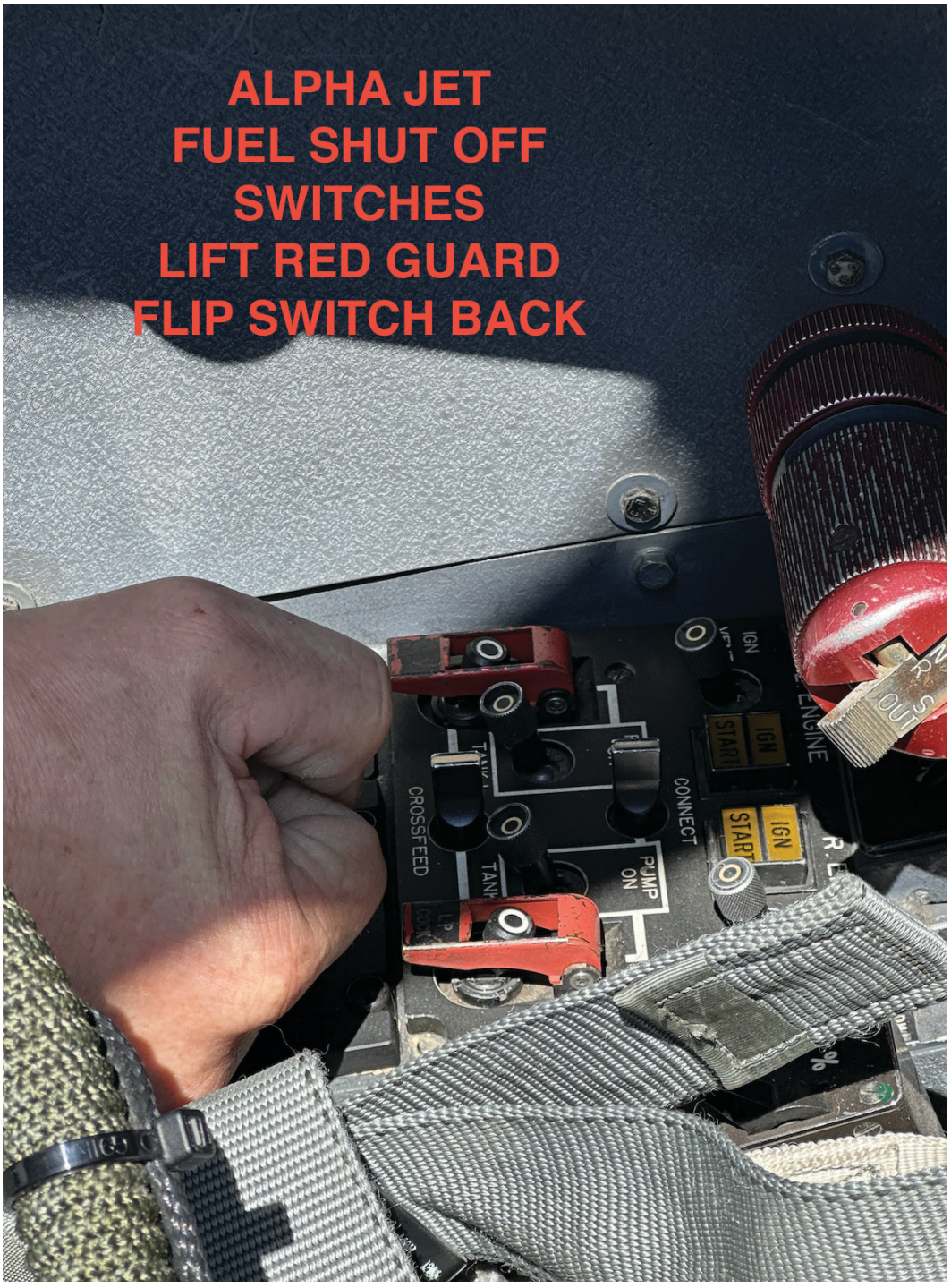
The Alpha Jet series of aircraft was a joint Franco-German initiative to produce a highly-advanced tactical trainer with close-air support combat capabilities. The French firm of Dassault-Breguet generated the initial evaluation model under the designation of "TA501" (which combined the qualities of two earlier French and German proposals). The concept was accepted for further development by the two participating nations and ultimately was finalized to become the "Alpha Jet" of the late 1970s. Since then, the type has gone on to see service with several other nations including Belgium, Egypt and Thailand.

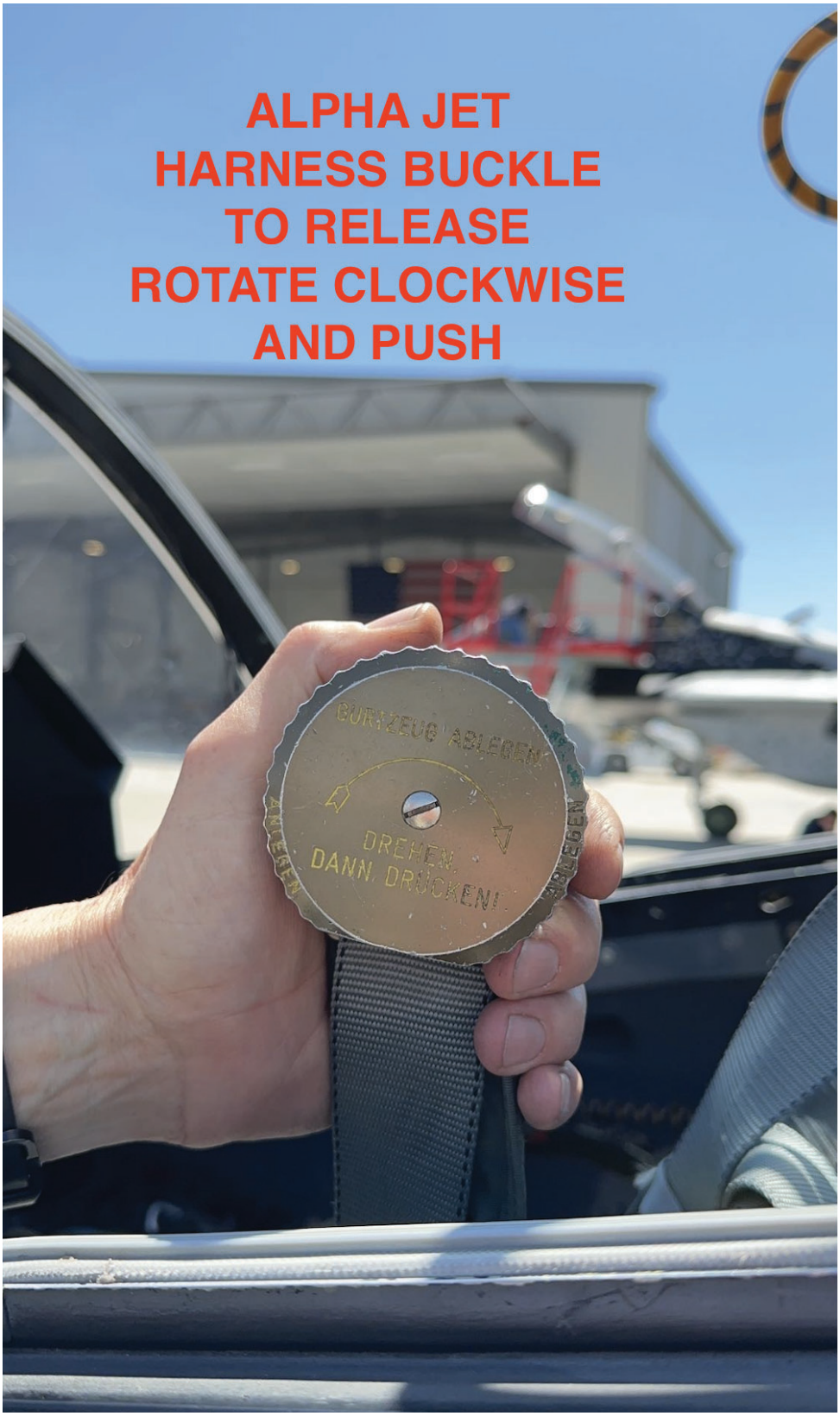
The Alpha Jet was of a conventional design meant to train upcoming pilots in the intricacies of jet-powered flight and high-speed weapons delivery. The twin-engine, two-seat strike platform proved an agile mount and was given a high-mounted, swept-wing monoplane arrangement which allowed for clearance of various ordnance types under the wings. A single vertical tail fin was affixed to above and between the two engine exhausts (aspirated by forward-set air intakes to either side of the cockpit). The forward-most pilot managed good visibility out of the large two-piece glass canopy. The instructor/co-pilot was seated in the more obstructed rear cockpit position. The undercarriage was of a conventional tricycle layout with two single-wheeled main landing gear legs and a single-wheeled nose landing gear leg - all retractable. Power is supplied by a pair of SNECMA Turbomeca Larzac 04-C5 series turbofan engines buried within the middle-aft portion of the fuselage. Maximum listed speed is 620 miles per hour at sea level with a ferry range out to 1,800 miles. The listed service ceiling is 48,000 feet with a rate-of-climb exceeding 11,200 feet per minute.


ALPHA JET
MANUAL
CANOPY
OPENING
HANDLE

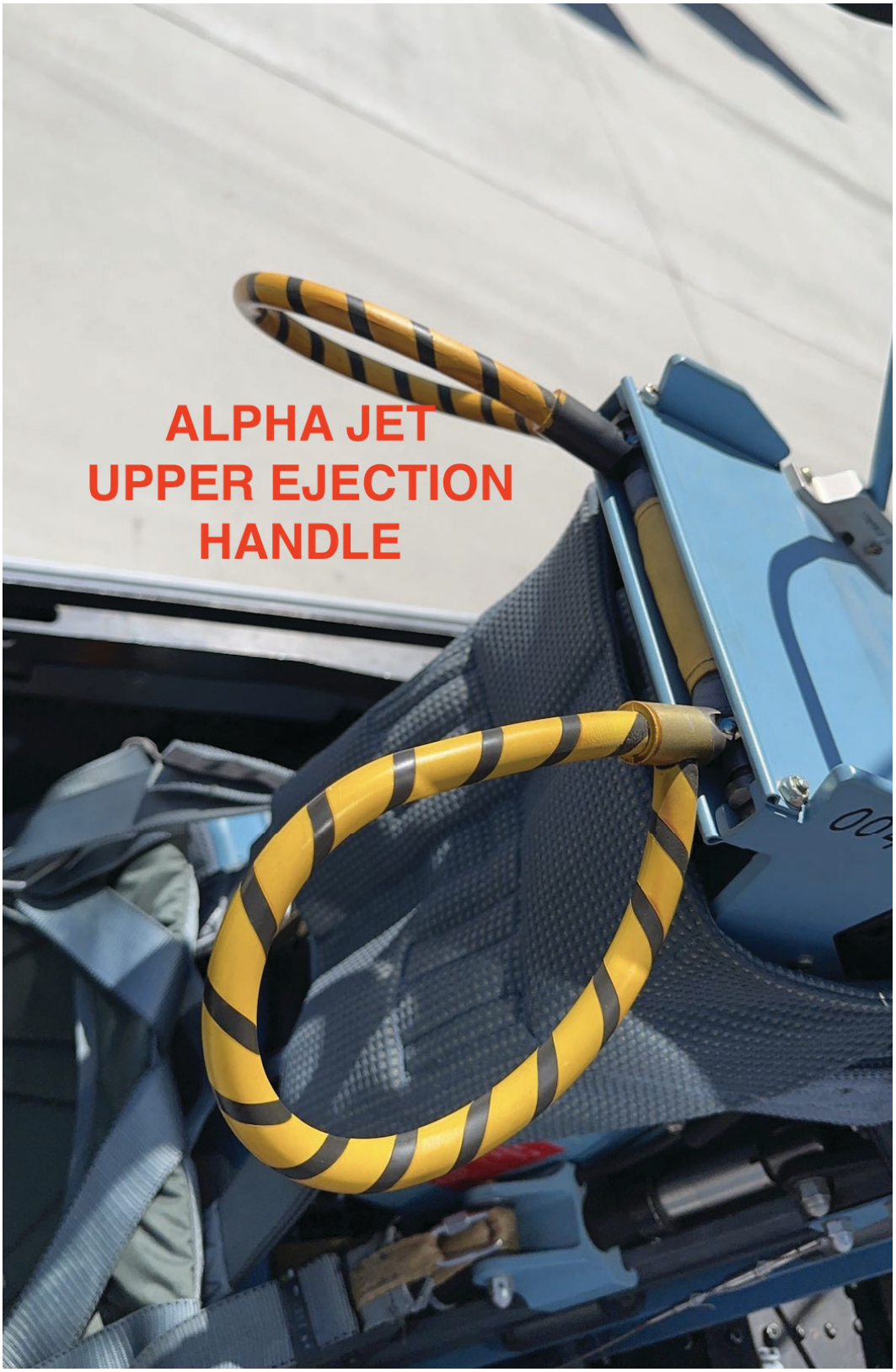

ALPHA JET THROTTLES
TO SHUT OFF ENGINES
LIFT TABS IN FRONT
THEN PULL BACK THROTTLES
OFF | STBY | OVERHE
IGN
START
IGN
FLAPS

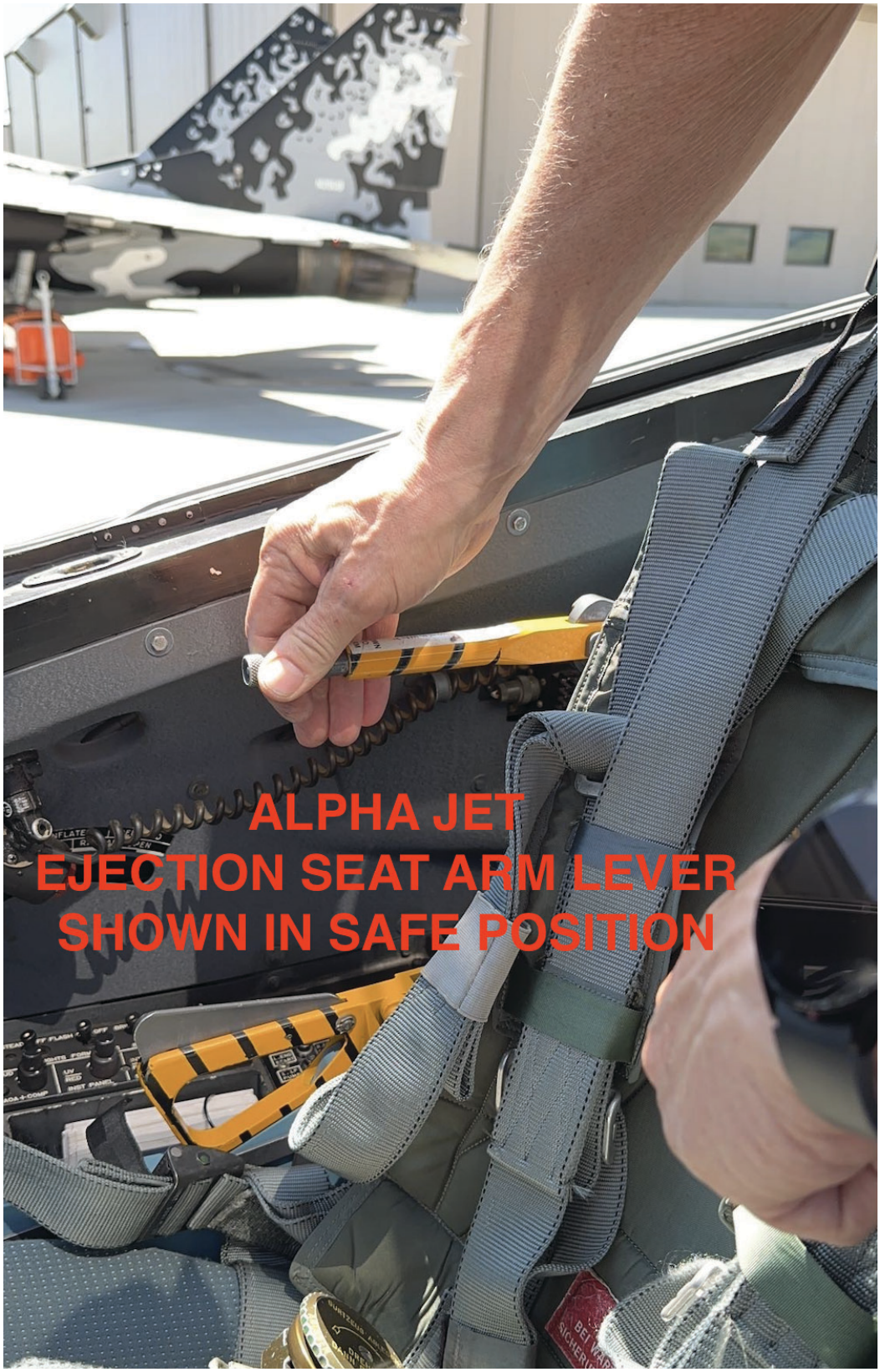

ALPHA JET
EMERGENCY CANOPY REMOVAL
BREAK GLASS
PULL BLACK AND YELLOW
HANDLES TO TEN FEET
CANOPY WILL SHATTER
FRAGILIZATION
PULL TO INITIATE


ALPHA JET
FUEL SHUT OFF
SWITCHES
LIFT RED GUARD
FLIP SWITCH BACK
IGN
START
IGN
START
CONNECT
CROSSFEED
PUMP
ON
ENGINE


ALPHA JET
HARNESS BUCKLE
TO RELEASE
ROTATE CLOCKWISE
AND PUSH
BURTZEUG ABLEGEN
DREHEN
DANN DRÜCKEN!

ALPHA JET
LOWER EJECTION HANDLE


ALPHA JET
UPPER EJECTION
HANDLE


ALPHA JET
EJECTION SEAT ARM LEVER
SHOWN IN SAFE POSITION


ALPHA JET
EJECTION SEAT
ARMING HANDLE
(SHOWN ARMED)
TO SAFE, PULL SILVER KNOB
AND LIFT HANDLE
UP TO
SAFE
SEAT
SAFETY
DOWN
TO
ARM

POLARIS

L-39

The L-39 Albatros is a highly capable, stable, subsonic aircraft that first flew in November 1969. The aircraft is produced in the Czech Republic and it is constructed in conjunction with plans developed by Aero Vodochody and its chief designer, Jan Vlček. The L-39 is flown worldwide, principally with former Soviet allies. The aircraft continues to fly in countries as diverse as Iraq, Chechnya, Libya, Syria and Russia. The Albatros is flown primarily as a trainer or light attack aircraft similar in mission to the Italian MB339 or M-346, the British Hawk and the US Goshawk.

The L-39 is designed with many distinguishing characteristics. The aircraft possesses a uniquely tall vertical tail that is swept back and is one of its dominant features. The tail, with its inset rudder, provides directional control to the aircraft.

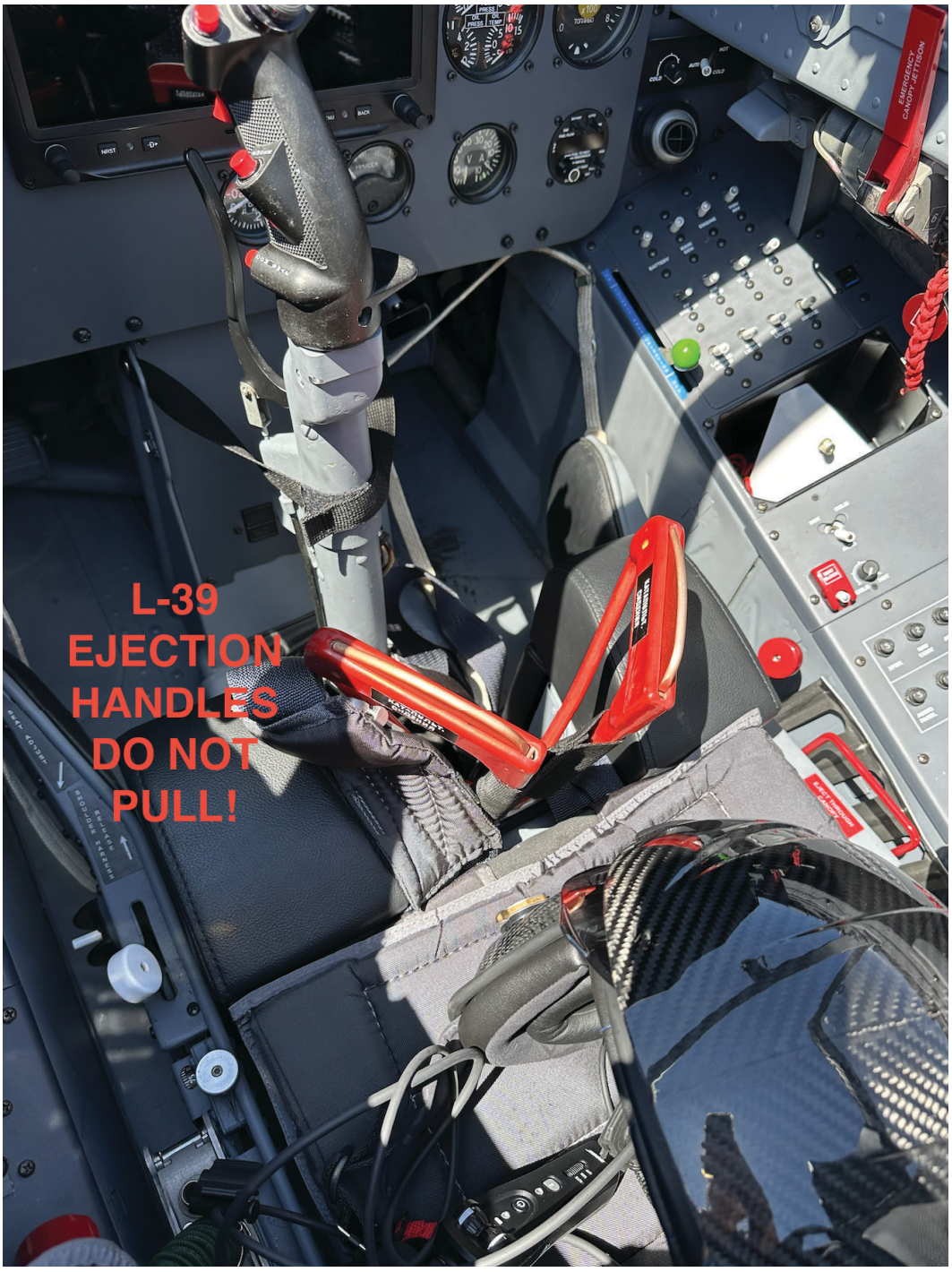
The L-39 has thick wings that provide ample lift for the airframe, and each wing has provisions to mount stores or fuel tanks that extend the range of the L-39. Operational g-force limits at 4,200 kg are +8g/-4g. Side-by-side airbrakes are located under the L-39 fuselage slightly ahead of the wing's leading edge. The L-39 has variable-incidence horizontal stabilizers mounted on the rear of the aircraft at the base of the rudder. These stabilizers, with their inset elevators, provide primary pitch control to the aircraft.

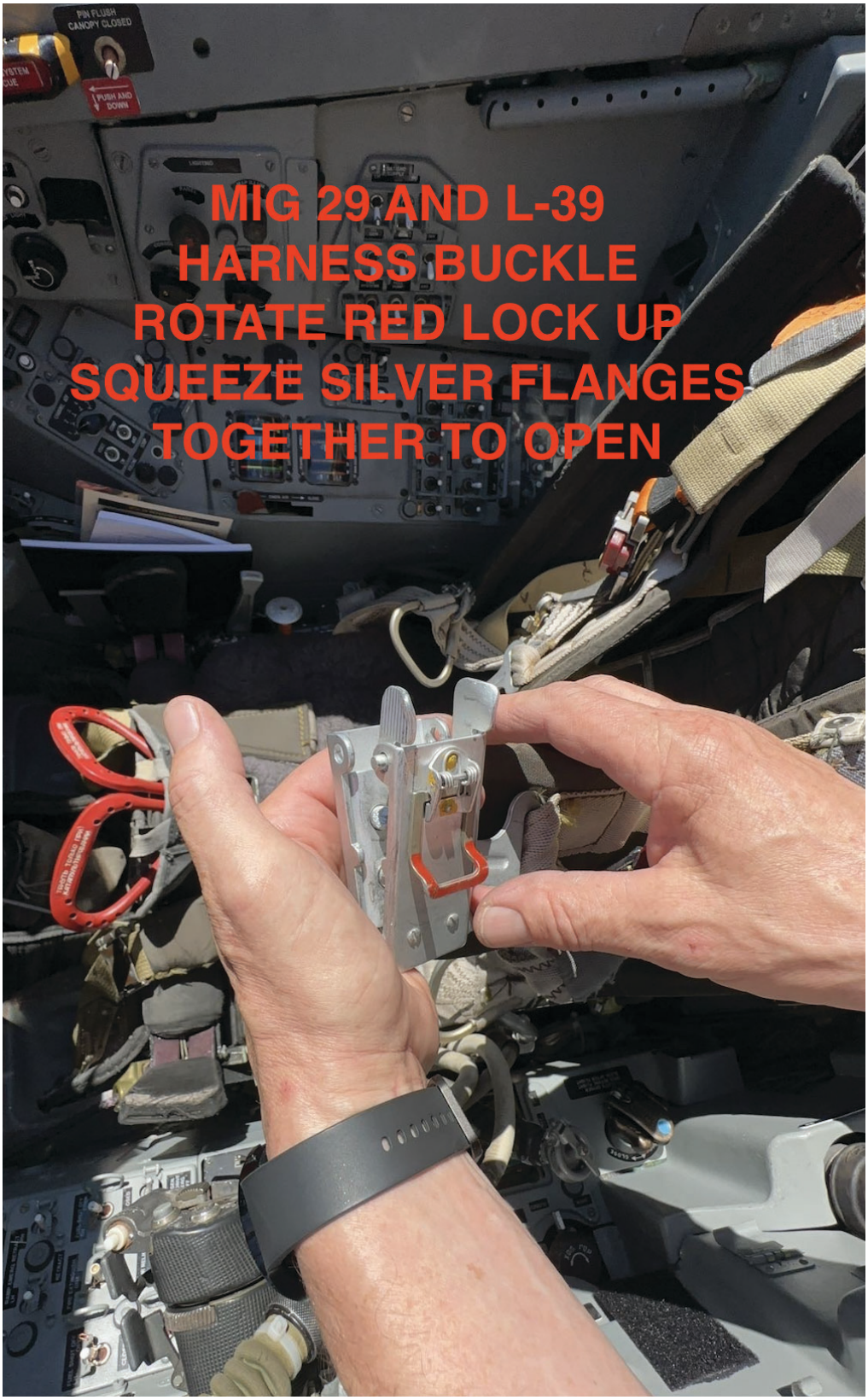
The controls on the L-39 are pushrod-actuated and they connect to electrically powered servo tabs on the ailerons and the rudder. The aircraft's flaps, landing gear, wheel brakes and the side-by-side airbrakes are powered by an independent hydraulic system.

The L-39 is powered by a single Ivchenko AI-25TL turbofan engine. The engine is mounted in the fuselage and is fed by two shoulder-mounted, semi-circular intakes just aft of the cockpit. The engine's exhausts are located just below the tailplane. Fuel for the engine is provided by five rubber bag fuel tanks located in the fuselage behind the cockpit.

The L-39 possesses a tandem cockpit, in which one or two pilots can sit under separate, individual canopies that are hinged on the right side of the jet. The rear seat of the L-39 is raised slightly and aids in forward visibility. The aircraft has two ejection seats that are made by Aero Vodochody.


OPEN
L-39
MANUAL CANOPY
OPENING HANDLE
PUSH BUTTON ON LEFT
HANDLE POPS OUT
ROTATE UPWARDS


L-39
EJECTION
HANDLES
DO NOT
PULL!


PIN FLUSH
CANOPY CLOSED
PUSH AND
DOWN
MIG 29 AND L-39
HARNESS BUCKLE
ROTATE RED LOCK UP
SQUEEZE SILVER FLANGES
TOGETHER TO OPEN