THE SHIELD OF DAVID

2015

THE ISRAEL AIR FORCE INTO THE 1990s

Samuel M. Katz

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Introduction

"Israel has no AVERAGE pilots. They are all the best that are in the sky." — A U.S. Navy TOP-GUN instructor.

"I followed the Flogger, playing cat-and-mouse, over the skies of the Beka'a. My Sidewinder locked on and the launch button depressed. It was really no contest. All I saw was impact and a parachute emerge. Just an average day on the job." — An IAF F-15 pilot, returning from a sortie over Lebanon, June 1982.

Two **Kfir** C-7s, one bedazzled in a desert camouflage scheme and the other in an air-superiority gray, patrol the skies over central Israel. Note additional fuel tanks carried, as well as Python 3 air-to-air missiles. (IDF Spokesman)

Israel's air power dates back to its pre-independence underground army, the ***Haganah*** (or "Defense"), and its primitive aerial component known as the ***Sherut Ha'Avir*** (or "Air Service"). When the Arab states of Egypt, Transjordan, Iraq, Syria and Lebanon invaded Israel on May 15, 1948, a day following Israel's declaration of independence, launching massive aerial bombings of Israeli targets and cities in the process, the ***Sherut Ha'Avir*** had no viable response. When, days later, the Israelis received a supply of Czechoslovak-produced clones of the ***Luftwaffe*** Me-109G, called the Avia S-199, a new element into Middle Eastern military equations was formed; the ***Sherut Ha'Avir*** became the ***Heyl Ha'Avir***, or "Air Corps," although it would become more commonly known as the Israel Air Force, or "IAF." During the 1948 War, the IAF was soon able to obtain a hodgepodge of aircraft from World War Two surplus supplies, including: the C-46 and, of course, the C-47; Bristol Beaufighters; Supermarine Spitfires; P-51 Mustangs; and, even the B-17 Flying Fortress. This "Tower of Babel" of aircraft was handled by a literal "Tower of Babel" of flyers, mainly Gentiles, Second World War veterans, who volunteered to save the Jewish State from imminent destruction in a multi-lingual, multi-cultural air combat unit known as the ***"Ma'Chal"*** (or foreign volunteers).

For the next ten years, however, Israel's aerial status remained virtually the same. The Israeli Prime Minister, David Ben Gurion, was not a firm believer in the attributes of air power. Severe budgetary restraints limited the IAF's front-line fighter aircraft to Second World War surplus piston-engine fighters, like the ex-RAF Mosquitoes and American P-51 Mustangs. When the Egyptians obtained their first supply of Soviet-produced MiG-15s and British-produced Meteor jets in 1955, the Israelis were forces to respond in kind. The first IAF jets were the British Meteor; soon, close relations between Israel and France helped bring the Dassault M.D. 450 Ouragan and the Dassault Mystére-IV-A to the IAF. Israel's limited financial ability to purchase these "top-of-the-line aircraft" was extremely constraining and, as a result, piston-aircraft were still utilized throughout its order of battle. Many Western nations were also unwilling to train Israeli pilots, and the IAF was forced to create its own guidelines and standards of instruction. The success of this indigenous "born in battle" practice was proven in April 1956, when IAF jets downed three Egyptian Air Force Vampire jets in dog-fights above the Sinai Desert. At last, there was an indication that the IAF's emphasis on quality, in order to make up for its severe quantitative gap, began to shine through as Israel searched for aerial superiority.

On October 31, 1956, the Middle East erupted in full-scale war for the second time in seven years in what became known as the Sinai Campaign. Hours before war was to break-out, sixteen P-51 Mustangs flew a few dozen feet above the sandy

wasteland of the Sinai Desert and used their propeller blades to slice through Egyptian telephone lines. The IAF's aerial opening shot was soon followed by a flight of sixteen C-47 Dakotas aircraft ferrying a battalion of paratroopers deep into enemy territory for their date with destiny at the Mitla Pass; the lead C-47, it must be added, was piloted by a female flyer. During the brief Sinai Campaign, the IAF's small fleet of combat aircraft was used to its maximum effectiveness: fighter and bomber aircraft strafed roads and bombed enemy positions; light piston engine transports ferried senior officers, conducted long-range reconnaissance forays; heavier transport aircraft supplied the troops deep behind enemy lines. In 1,846 combat sorties, the IAF downed nine Egyptian fighters in aerial combat and destroyed an astounding 308 tanks and vehicles in strafing runs. The success changed Israel's view of its air force forever.

In the years to follow, the IAF obtained Sud.Vatour bombers, Dassault Super-Mystére B-2s and Poter Air MC-170 Fouga-Magister jet-trainers from France and, most importantly, the trim, delta-wing, devil of an aircraft: The Dassault Mirage IIIC. The acquisition of the Mirage IIIC, equipped impressively enough, with 30-millimeter cannons (so that once the enemy's aircraft were destroyed, ground targets could be attended to) was, indeed, a turning point. It was a boisterous statement made by the IAF's boisterous commander at the time, Major-General Ezer Weizman—a man known as ***"Mr. Heyl Ha'Avir."*** The IAF Mirage's first baptism of fire was a highly successful one: in a dramatic dog-fight over the tranquil Sea of Galilee on July 14 1966, a Mirage IIIC blew a Syrian Air Force MiG-21 Fishbed out of the sky. A month later, the IAF obtained an intimate glimpse into the top-of-the-line Arab air-superiority fighter, the MiG-21 Fishbed, when, in a brilliant intelligence coup, an Iraqi pilot defected his Fishbed to Israel. The aircraft, later designated with James Bond's infamous 007 designation, was carefully dissected by eager technicians and its data passed along to IAF pilots who soon became intimate with the MiG-21.

The Star of David joining the red, white and black roundels of the Syrian Air Force: the IAF's MiG-23 prepares for a landing back at base. The acquisition of the Flogger, through the defection of Syrian Air Force Major Adel Bassem on October 11, 1989, provided the IAF with a wealth of information on one of the Arab's most potent combat aircraft. (Michael Vinraub/IDF Spokesman)

The IAF's finest hour was, undoubtedly, the morning of June 5, 1967. In response to months of provocation, the IAF initiated a massive blitz against Egyptian Air Force bases which would become one of the epic surprise assaults in modern military history. As Egyptian Air Force pilots returned from morning patrols, and their replacements munched on hearty breakfasts, the IAF drew first blood in a vindication of their aerial might. In a desperate gambit, almost every combat aircraft in the IAF inventory set out that morning to destroy Arab air power on the ground! In less than three hours, hundreds of Egyptian planes were destroyed on their runways by bombs, cannon and rocket fire. The IAF's attack was conducted in unrelenting waves of aerial destruction. The Egyptian Air Force never had a chance; neither did the Jordanian, Syrian and Iraqi air forces who received equally destructive attention. The IAF accounted for the destruction of an astounding 391 enemy planes on the ground, the total inactivation of 60 enemy airfields and the downing of over 60 enemy aircraft in aerial combat. Once the Arab air forces were destroyed, the IAF dedicated itself to ground-support operations, hitting retreating enemy tanks, vehicles and formations mercilessly.

Peace did not follow the 1967 War and the IAF found itself more pressed than ever. Because Israel's preemptive strike sparked the conflict, the politically fickle French, the IAF's sole supplier of combat aircraft, imposed an all-inclusive arms embargo preventing delivery of 50 Dassault Mirage V fighter-bombers aircraft which were already paid for! President Nasser initiated a "War of Attrition" against Israel; it was a saturated conflict meant to utilize Egypt's vast numerical advantage in manpower and fire-power to undermine Israel's resolve to fight and keep its newly captured territories. Israel responded with the IAF!

Along the Suez Canal, the Jordan Valley Desert and the Syrian hills, Arab artillery attacked Israeli positions, Palestinian guerrillas infiltrated into Israel. IAF operations were the vanguard of the Israeli effort and two new weapon systems were entered into the equation: the A-4 Skyhawk and the F-4E Phantom. The first Skyhawks reached Israel shortly after the 1967 War and the Phantoms in 1969. Both aircraft offered the IAF a new perspective; the longer range aircraft capable of carrying heavier payloads. Soon, the entire nation of Egypt was in the bomb-sights of IAF aircraft, as sonic booms with "Star of David" signatures were heard over Cairo. The Skyhawk was a pugnacious little aircraft capable of 655-mph speeds, and an ordnance payload in excess of 9,920-lb. In Israeli hands, and with the capable IAF pilots at the throttle, the Skyhawk could provide the IAF with the hard punch capable of mass-bombing raids while deploying only few aircraft. The Phantom, on the other hand, was military superiority. A complete package of agility, speed, and strength (which made it a front line interceptor as well as a long range bomber), the Phantom was capable of Mach 2.17 speeds (1,432-mph), and could carry 3,020-lb. in ordnance. It became Israel's most potent weapon.

The Egyptians and Syrians, however, had a trump card of their own: a powerful and generous ally called the Soviet Union. The Soviet's carefully cultivated the Arab states with abundantly generous supplies of military hardware, including top of the line surface-to-air missile (SAM) batteries, such as the SA-2 "Guideline" and SA-3 "Goa," as well as hundreds of anti-aircraft gun batteries, eventually manned by over 15,000 Soviet officers! The result, IAF deep-penetration raids against Egypt were met

by murderous barrages of SAMs and accurate hails of radar-controlled anti-aircraft fire. The aerial segment of the War of Attrition ended in explosive fashion on July 30, 1970, when a flight of Mirage IIICs and F-4E Phantoms ambushed a squadron of Egyptian Air Force MiG-21Js flown by Soviet pilots. In the ensuing dogfight, which lasted 30 seconds, the IAF downed five of the MiGs without suffering a single loss of their own.

The IAF would find itself in another bitter fight for the survival on October 6, 1973. Just hours before the Jewish State was about to observe Yom Kippur, the holiest day in Judaism, Israel's Prime Minister, Golda Meir, received intelligence reports that both Syria and Egypt were to launch a full-scale surprise attack against Israel later in that day. The actual blitz was a ferocious assault. The might of the IAF, the squadrons of Mirage IIICs, Phantoms and Skyhawks, were issued with the difficult and dire task of keeping the Syrians and Egyptians at bay, to allow the reservists, the numerical might of the IDF, the time and opportunity to reach the front. The Arabs, however, incorporating the lessons learnt from the Soviets in the War of Attrition, covered their impressive advances with mobile SAM umbrellas—consisting mainly of the SA-6 "Gainful": these missiles took an enormous toll on IAF aircraft who had to fulfill an air-superiority as well as aerial-artillery role. The SAMs, in fact, neutralized the IAF. Israeli pilots flew what amounted to almost suicidal *Kamikaze*-type sorties; flying straight into SA-2, SA-3, SA-4, SA-6 and ZSU-23-4 quad-barrel radar-controlled 23-millimeter guns, they engaged their radars while other aircraft attempted to destroy them. Nevertheless, the IAF was able to provide much needed ground support to the conscripts at the front, providing absolute air cover to Israeli proper, and allow the reservists who were mobilized, the ability to be pressed into the struggle.

During an acclimation flight, an F-16D joins the newly obtained "blue and white" Flogger-B. (IDF Spokesman)

During the eighteen days of brutal combat, the Egyptian and Syrian SAM umbrella claimed 105 IAF aircraft. Most of these aircraft were soon replaced by generous shipments from the United States in what became known as the "aerial bridge." The arrival of the replacement aircraft, coupled with the ground campaign turning in Israel's favor, allowed the IAF to assume the offensive. With anti-radiation ordnance, IAF aircraft bombed and destroyed dozens of SAM batteries while forcing the Arab aircraft into action; in one-sided dog-fights 360 Syrian and Egyptian aircraft were blasted out of the sky; while dozens of helicopters ferrying Syrian and Egyptian commandos were destroyed before they could deploy behind Israeli lines. Although the IAF suffered an astounding casualty rate—almost 20 percent of its front-line aircraft and personnel—it was the difference between an Israeli defeat or victory in a war which could very well have meant the destruction of the State of Israel.

The Yom Kippur War was also the first conflict in which the IAF deployed helicopters in significant numbers. In fact, prior to the 1973 War, the IAF made little use of its minuscule fleet of whirlybirds, made up primarily of aging French Sud.Aviation SA321K Super Frelons and Sikorsky S-58s, mainly because of their large-size and vulnerability to ground fire. They were primarily reserved for most transport roles, like ferrying a force of reconnaissance paratroopers to Beirut International Airport for a spectacular commando raid in December 1968, or providing an airborne taxi to infantry units conducting a pursuit of Palestinian terrorists. When the IAF acquired the small and agile Bell-205 and Bell-212 Vietnam-era helicopters from the United States in the late 1960s and attack helicopters in the 1970s, Israel's use of the rotor-blades would expand to unimaginable dimensions.

Another "change" in IAF's theory in its use of aircraft was also seen during the bitterly contested battles of the Yom Kippur War when heavy transport aircraft, like the aged warrior C-47 Dakota and the newly acquired C-130 Hercules, moved large amounts of essential combat supplies to the front lines in Sinai. Such aircraft extended the "offensive" range of the supply-hungry IDF and made the Middle Eastern theater—and points beyond—entirely within Israel's reach. Three years later, on the night of July 3-4, 1976, IAF C-130s flew 2,300 miles to shuttle a combined IDF commando force to Entebbe in Uganda and then bring the force back together with 103 "ex-hostages" rescued from the clutches of Palestinian terrorists.

In the late 1970s, the IAF entered into its own technical age; it was an era which saw the IAF expand and diversify its aircraft from aging workhorses to top-of-the-line high-tech Mach.2 speed machines. Besides the production of its own indigenously produced fighter—an advanced version of the Mirage IIIC: a delta/canard wing fighter bomber called the ***Kfir*** (or "Lion Cub") — the IAF obtained two high-tech masterpieces from America: the elite of the elite in air superiority, the F-15 Eagle, an aircraft described by Israeli flyers as "a plane which loves its pilot," and the F-16 Fighting Falcon fighter bomber. While the ***Kfir*** provided the IAF with versatility and strategic depth, the F-15 and F-16 augmented the abilities and range of IAF operations. All of this would be choreographed in mid-air by the Grumman E-2C Hawkeye AWACS aircraft.

The incredible, almost legendary abilities of the IAF flyers was, perhaps, best illustrated on June 7, 1981, when a flight of six F-15s and eight F-16s, piloted by the IAF's best pilots, all combat veterans and some even (Arabic speaking) pilots flew from southern Israel across the Gulf of Eilat, then across the desert into Saudi Arabia, north towards Iraq, Baghdad, and the ***Osirak*** nuclear reactor—which was on the verge of producing weapons grade plutonium. The reactor was heavily defended by

scores of SAM batteries and radar-controlled anti-aircraft gun emplacements, but the tenacious IAF flyers swooped in from the south and in one lethal bombing dive, turned the nuclear-weapons facility into a definition of full-scale destruction. The raid illustrated to the IAF's ability to accomplish the impossible and captured the world's imagination. In retrospect, the raid might also have saved the world from viewing a preview to nuclear Armageddon.

The raid on Baghdad was, perhaps, the IAF's most spectacular operation to date. One year later, the IAF would impress the world once again, on a day in June—this time over the skies of Lebanon. Since the Lebanese Civil War, IAF aircraft had participated in dog-fights with Syrian aircraft; it was here that the ***Kfir***, the F-15 and the F-16 recorded their first "kills" ever; MiG-21s, MiG-23s and MiG-25s, the elite of Soviet produced military aviation, which failed to evade IAF heat-seeking missiles and 20-millimeter cannons were their victims. For years, Lebanon was the flash-point for the Middle East's "next" major conflict, as the Palestinian mini-state in southern Lebanon and ***intense*** Syrian military activity brought threats to Israel's northern frontier which were intolerable. In the spring of 1981 Syria deployed mobile SAM batteries in eastern Lebanon's Beka'a Valley; a move meant to hinder the IAF's bombing attacks against Palestinian factions allied to Damascus.

On June 6, 1982, tens of thousands of Israeli soldiers burst across the Lebanese frontier, in what has become known as "Operation Peace for Galilee." The IDF, commanded by Chief-of-Staff Lieutenant-General Rafael "Raful" Eitan, himself a certified jet pilot, was determined to once and for all remove the Palestinians from Lebanon, and air-power was to play a vital role in executing this objective. But the presence of Syrian SAM batteries in eastern Lebanon severely hindered IAF operations; a situation clearly not to be tolerated for long. Between June 9-10, in a period of under 48 hours, the IAF took out the Syrian SAM umbrella and most of the Syrian Air Force in one of air-warfare's most impressive and technologically masterful victories. IAF electronic intelligence aircraft, Beechcraft RU-21s, according to published reports, Grumman OV-1 Mohawks and Boeing 707s, were despatched to locate the missile-site radars while Israeli and American produced remotely-piloted vehicles (or "RPV") (small propeller driven "toy-aircraft" equipped with advanced electronics and, sometimes, payloads), were flown over the Beka'a Valley to act as aerial decoys. Foreign reports indicated that with the "active" electronic battlefield environment in its peak, E-2C Hawkeyes directed squadrons of A-4, F-4, F-16 and ***Kfir*** fighter bombers, all carrying anti-radiation missiles and bombs towards their targets. Destruction was absolute.

The Syrian Air Force responded desperately. They sent in wave after wave of MiG-21, MiG-23 and MiG-25 fighters to intercept the IAF bombers, but they were met by awaiting squadrons of ***Kfir***s, F-15s and F-16s, all armed with Sidewinder, Sparrow, Shafrir and Python air-to-air missiles. In the following three days of aerial combat, the IAF shot down over 60 Syrian MiGs and Sukhois to ***NO*** Israeli losses. During the three months of fighting, the IAF shot down over 90 Syrian aircraft (including twenty by ground and anti-aircraft fire); the only Israeli aircraft destroyed in the years since 1982 were a medevac helicopter, a Skyhawk, and an RF-4C reconnaissance Phantom—all shot down by ground-fire and surface-to-air missiles. The virtual destruction of the Syrian Air Force allowed the IAF to concentrate on the true objective of "Operation Peace for Galilee," and Palestinian targets throughout Lebanon were hammered daily by IAF bombing raids. Helicopter gunships, airborne tank killers, were also utilized for the first time in military history. The IAF's fleet of Cobra and Defender gunship proved deadly for Syrian armor.

In the years following the 1982 War, the IAF continued its attacks against Palestinian and, later, Shiite terrorist targets in Lebanon and points beyond. The IAF attacked the PLO's Lebanon-exile headquarters in Tunis on October 1, 1985. The

During large-scale maneuvers in southern Israel, a Defender circles over two M113 APCs before heading out over the row of low hills in search of "enemy" armor. (IDF Spokesman)

attack force, eight F-16s and several F-15s flying high-altitude cover, had to fly 1,280 miles in each direction and were refueled in mid-air by Boeing 707s. The raid, a performance well beyond what most regarded as the IAF's operational range, was a firm statement of the IAF's capability to attack terrorism well beyond her borders. The IAF returned to Tunis three years later and, according to foreign published reports, provided ECM (electronic counter-measure) support to the IDF assassination of PLO military commander, Abu Jihad on April 16, 1988.

Such raids, utilizing all of Israel's arms in the execution of special operations, also illustrated, once again, the innovative thought behind IAF operations and equipment, a statement proudly expressed on New Year's Day 1987, when the ***Lavi*** (or "Lion"), an Israel Aircraft Industries produced fighter meant to bring the IAF into the 21st Century, made its virgin test-flight. A sleek and electronically brilliant aircraft, the ***Lavi*** looked like a hybrid combination of two very successful warplanes: the delta-winged ***Kfir*** and the F-16. Unfortunately, it was "grounded" not by enemy SAMs, but by Israel's severe budget limitations. These budgetary restriction, however, did not prevent the IAF from receiving a most special and unexpected gift. On October 11, 1989, Syrian Air Force Major Adel Bassem defected to Israel along with his MiG-23-S Flogger-B. The intelligence bonanza gained by looking at the performance and electronic "black box" defenses of the enemy's top-of-the-line-interceptor was of great significance. Another acquisition, in the summer of 1990, was the McDonnell Douglas AH-64 Apache, a low-flying, fast moving anti-tank dynamo which could easily turn a column of enemy armor into a twisted and burning graveyard. Its arrival in Israel came at the time of the Iraqi invasion of Kuwait—an initial period when it appeared as if Israel would be involved in any future fighting. The baptism of gunfire for the Apache would not come during the Gulf War, but on February 22, 1992, in southern Lebanon when a flight of Apaches were involved in a "selective" strike against the motorcade belonging to Hizbollah military commander Sheikh Abbas Musawi. On a twisting Beka'a Valley road, a fusillade of Hellfire missiles tore apart the Mercedes staff cars used by the Hizbollah commanders. According to reports published in several American publications, the aim of the mission was not the assassination of Musawi, but rather his abduction; according to the reports, the Apaches were to immobilize the motorcade and waiting Israeli commandos were to snatch Musawi and possibly trade him back to the Lebanese in exchange for captured IAF navigator Ron Arad who, while flying a bombing sortie over Lebanon in 1986, was captured when an electronic malfunction destroyed his Phantom in the middle of a bombing run, and forced him to eject over Shiite territory. Although the Israelis have never denied or admitted to these reports, if true, it would appear as if the Apache's fire-control system was too accurate for its own good. Needless to say, however, the acquisition of the Apache bolsters an already lethal fleet of attack and tank-killing choppers in IAF service. More recently, the IAF has also ordered the UH-60 Blackhawk transport—as well as offensive—chopper.

Excellent overall view of the IAF CH-53 ***Yasur***. Note that yellow "V" "Friend or Foe" recognition symbol encompasses both the Star of David emblem and the aircraft's numeric designation. (IDF Spokesman)

The IAF's modern fleet of aircraft, pictured in the following pages, have proven significant in the history of the Israel Air Force. It has been over forty years of great struggle, sacrifice, dedication and, most of all, uninterrupted combat. All indication point to the IAF have greater and more dire responsibility in the months to come and the IAF's zone of concern, the operational region that it may need to fly in the years to come has increased dramatically. With the historic peace accord now underway between Israel and the PLO, the peace holding up strongly with Egypt, and possible breakthroughs likely with Jordan and Syria, the principal threat to Israel comes from the east—from Iraq and more specifically Iran and these nation's long-range missiles and nuclear weapons programs. To meet these long-range challenges, the IAF had been searching for its fighter bomber of the future for the past several years in a contest that for nearly three years pitted the General Dynamics F-16 against the McDonnell Douglas F-18. Both aircraft were tested by the IAF but a last minute entry to the multi-million dollar acquisition run off was the McDonnell Douglas F-15I, the export version of the F-15E. A multi-faceted fighter-bomber and by far the most sophisticated combat jet in the world today, the F-15I in Israeli hands will be, according to one U.S. Air Force officer, "the most lethal fighting system ever conceived."

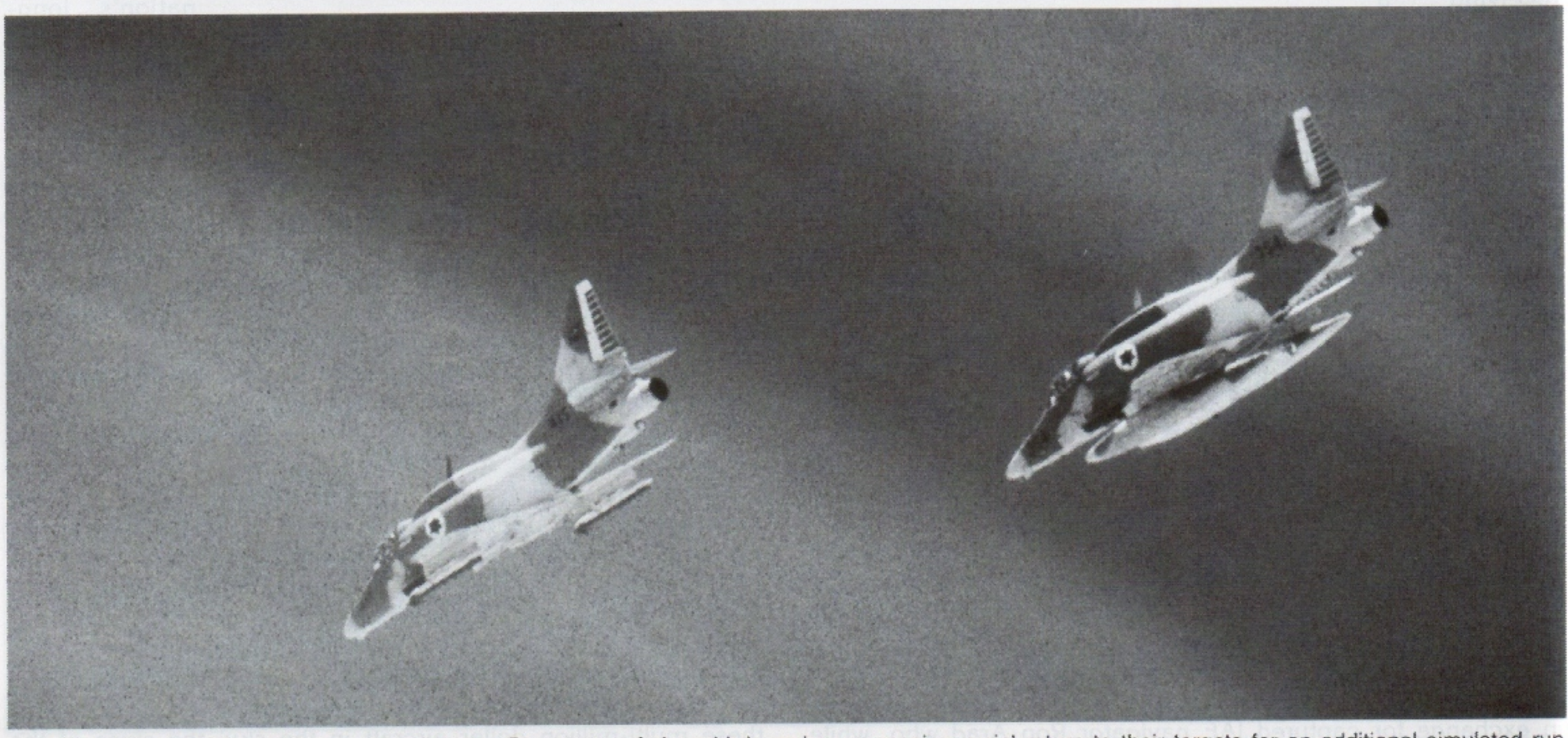
To many foreign observers and admirers, the IAF owes its success not to its high performance aircraft or technical mastery, but rather to its true secret weapon—its human element. Becoming a pilot in the Israel Air Force is about the most prestigious thing an Israeli conscript can achieve and certainly the most difficult. IAF flight training is legendary for its high attrition rate, superhuman expectations, and level of professionalism. As long as Israel can produce these flyers, these highly intelligent men willing to be cocky, arrogant, courageous, and face the dangers of Mach.2 combat with zeal, and as long as the IAF can produce a small army of instructors, technicians, ground crew chiefs and support personnel who keep these multi-million dollar aircraft in the sky, the skies of the Middle East will belong to the IAF.

The Old Yet Reliable Warbirds

A veteran of the War of Attrition, 1973 Yom Kippur War, Operation Litani, Operation Peace for Galilee and countless other security operations against all of Israel's neighbors, the A-4 Skyhawk—it is seen here at the IAF's new museum at the sprawling Hatzerim Air Force base in the Negev Desert. (Samuel M. Katz)

Over the picturesque and majestic beauty of southern Israel, two IAF Skyhawks perform a refueling maneuver during mid-air exercises. Note additional external fuel tanks fitted to lead Skyhawk. (***Biton Heyl Ha'Avir***)

A modified Skyhawk, still functional in a training and emergency combat role, sits at an anonymous airbase awaiting a student pilot and a few hours of flight time. (IDF Spokesman)



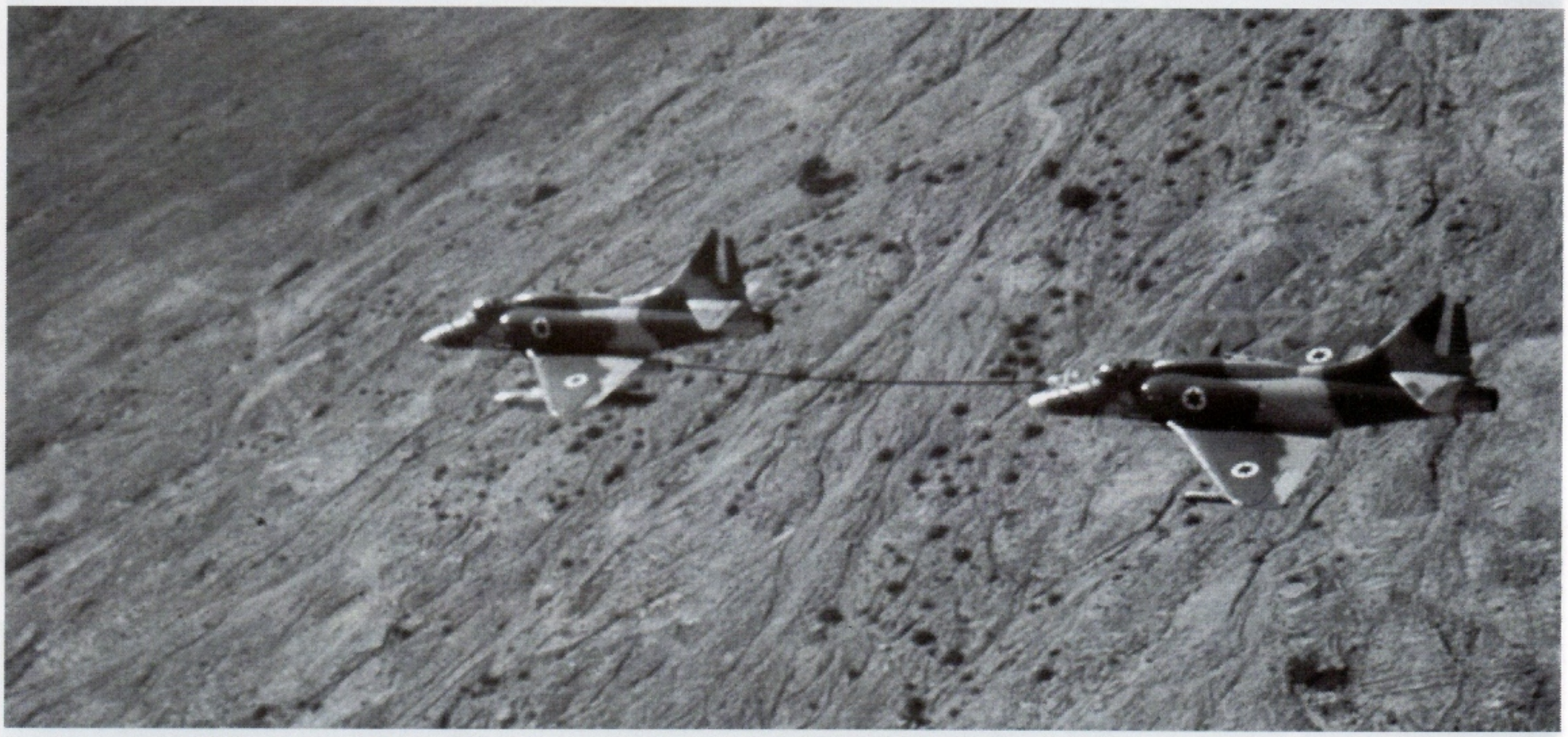
Over the hypnotic wilderness of the Negev Desert, two A-4 warbirds make a sweeping aerial return to their targets for an additional simulated run through. (***Biton Heyl Ha'Avir***)

Three IAF Skyhawks make a low-level roll over a defensive position in southern Israel providing aerial support in a mighty and reinsuring gesture of jet engine firepower. (***Biton Heyl Ha'Avir***)

Dusk at an anonymous airbase in central Israel. A neatly parked row of Skyhawks await their force of pilots who, after the preflight briefing, will fetch their helmets, G-vests and maps, and head out for an operational assignment. (***Biton Heyl Ha'Avir***)

While on exercise in the Mediterranean, an attack formation of three IAF Skyhawks hugs the waves and keeps clear of "enemy" radar. (***Biton Heyl Ha'Avir***)

A modified Skyhawk, called by many in the IAF the "Skyhawk 200," operates in an air superiority role, seen here armed with Sidewinders. (***Biton Heyl Ha'Avir***)



Interesting photograph of an IAF Skyhawk refueling another A-4—the latter is armed with a Rafael Python-3 air-to-air missile, in an air superiority role. (***Biton Heyl Ha'Avir***)

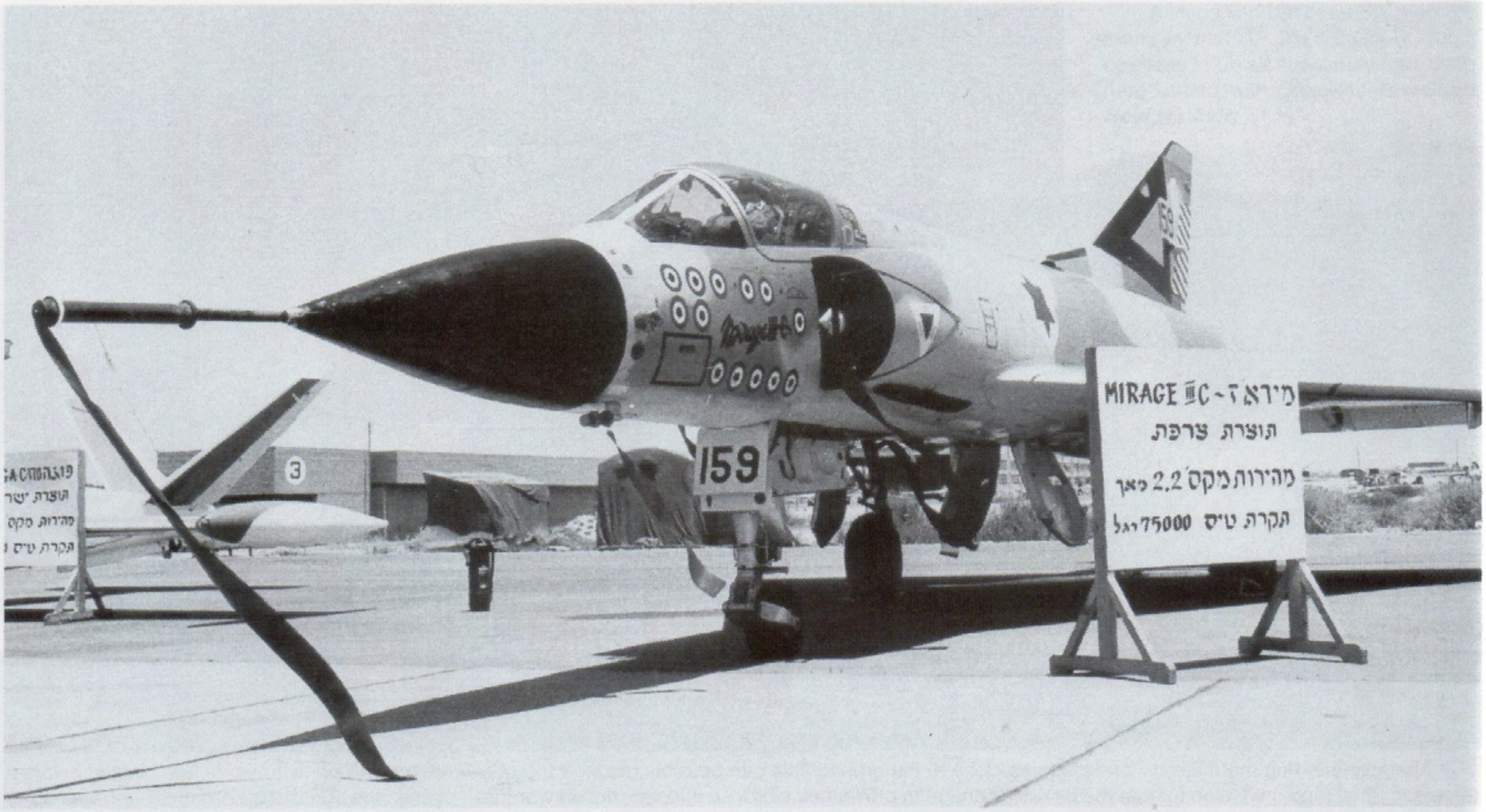
The beloved Skyhawk remains an integral element of the IAF's future well into the next century. (***Biton Heyl Ha'Avir***)

Attempting to hug the majestic landscape as close to the ground as it can possibly reach, a trio of A-4 desert warriors who years ago blasted away at targets in Sinai (and the Golan for that matter) still manage to prove their worth as effective desert warriors—even in the age of the F-16, F-15 and Phantom-2000. (***Biton Heyl Ha'Avir***)

Inside its protective shelter at an anonymous airbase in southern Israel, a group of techno-professionals, all under the age of twenty-one, attend to the aging war horse. (Samuel M. Katz)

Laden down with external fuel tanks and ordnance, a Skyhawk take-off from an anonymous airbase in central Israel. Although the Skyhawk's internal avionics and electronic have been secretly enhanced by Israeli engineers, its now infamous three color camouflage scheme has not been altered in over twenty years. (***Biton Heyl Ha'Avir***)

Close-up view of a modified A-4 Skyhawk, on display at an airbase in central Israel. Note rescue tab labeled ***Hatzalah*** in Hebrew. (Courtesy—Yoav Efrati)



At a base in southern Israel, a Mirage IIIC air-superiority aircraft (superior with 13 kills) which has been extensively modified by Israel Aircraft Industries, is displayed on Independence Day. (IDF Spokesman)

The top Mirage IIIC MiG and Sukhoi killer—now displayed at the IAF museum: It is the master of thirteen Egyptian and Syrian aircraft (the roundels with three stars indicate Egyptian kills, while those with two stars indicate Syrian aircraft downed). Note aircraft makings in Hebrew. (Samuel M. Katz)

The once mightiest of the mighty in the IAF and to many the most successful and important aircraft to ever serve in the Heyl Ha'Avir—the McDonnell Douglas F-4E Phantom. Still active, still vibrant, and modified by Israeli technicians for service into the next century, still lethal in a technologically saturated battlefield. Here, a ***Kurnas***-2000 (Sledgehammer, the IDF nickname for the Super Phantom) grabs a quick, mid-air, supply of fuel from a Boeing 707, converted to an in-flight tanker by Israel Aircraft Industries. (Sivan Faraj/IDF Spokesman)

Parked next to the former IAF air superiority aircraft, the Mirage IIIC (the true forebear to the Kfir family of fighters), an F-15 Eagle awaits its permission for take-off. (***Biton Heyl Ha'Avir***)

On a rain soaked tarmac at an anonymous air force base, a ***Kurnas*** (Sledgehammer) awaits a pilot, a few thousands pounds of ordnance, and a mission. (***Biton Heyl Ha'Avir***)

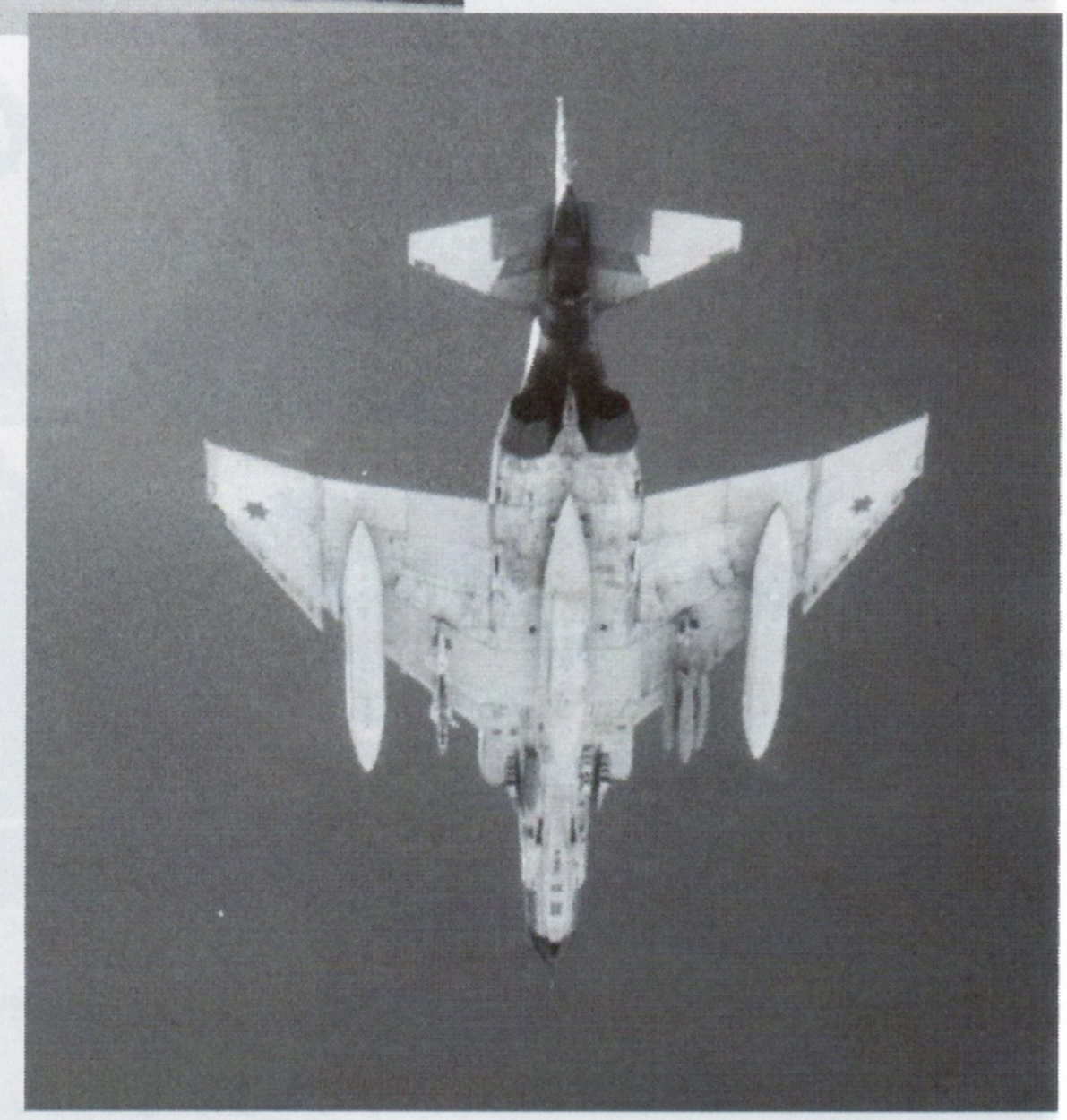
After completing their practice bombing run, a trio of pilots stand in awe as a pair of Super Phantoms take-off for some late afternoon flight time. (IDF Spokesman)

With the ***Tzevet Karka*** (ground crew), wearing white coveralls, directing a returning Sledgehammer into base, the pilot prepares for the lengthy post-flight debriefing in the squadron conference room. (***Biton Heyl Ha'Avir***)

Three Super Phantoms patrol the beautiful desert wilderness of southern Israel. Although most new pilots thrive for the opportunity to "drive" an F-15 or F-16, those in the know still want to sit behind the controls of the legendary Super Phantom. (***Biton Heyl Ha'Avir***)

From its home base "somewhere" in southern Israel, an IAF F-4E Super Phantom takes off during a training exercise. (Samuel M. Katz)

With its canopy up prior to entering take-off position, a ***Kurnas*** crew awaits its spot on line for the quick and mighty lift-off from its base in northern Israel. Photograph offers an excellent view of the once top-secret rear-view mirrors fastened to the canopy. (***Biton Heyl Ha'Avir***)

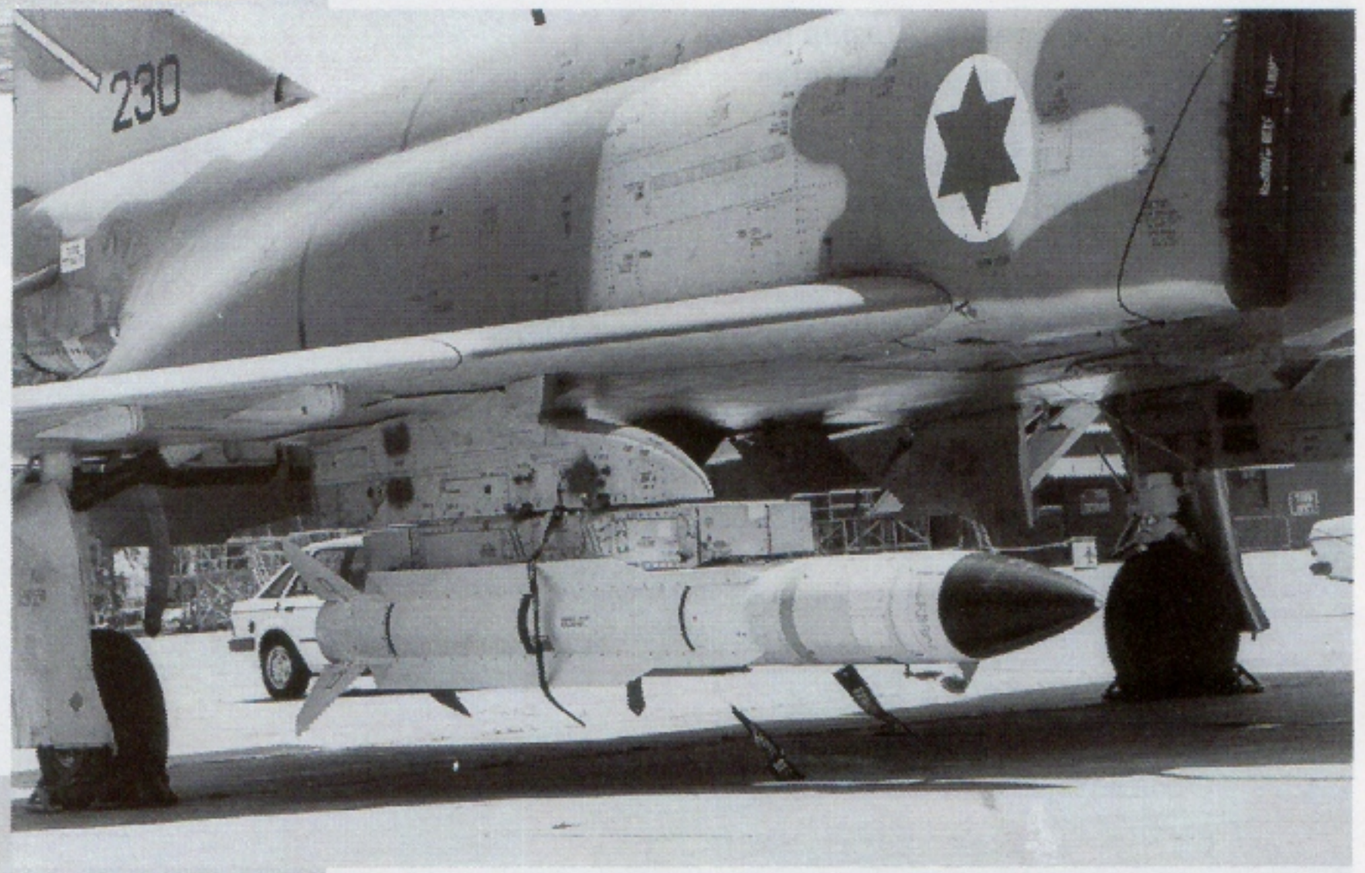


Fascinating view of an IAF F-4E, still carrying a payload of bombs, returning to base. The IAF's Star of David emblem and the F-4E have come to personify Israel's air superiority. (***Biton Heyl Ha'Avir***)

A landing shot of the ***Kurnas***-2000, the Israel Aircraft Industries revamped copy of the F-4E, which will be in service into the next century. The strength and sheer destructive capability of the Super Phantom makes its new name of KURNAS [or "Sledgehammer"] a fitting title. (Sivan Faraj/IDF Spokesman)

The mighty F-4E Phantom—the workhorse of the IAF for over twenty years and, most likely, twenty more—takes off form a sun baked runway in southern Israel. (IDF Spokesman)

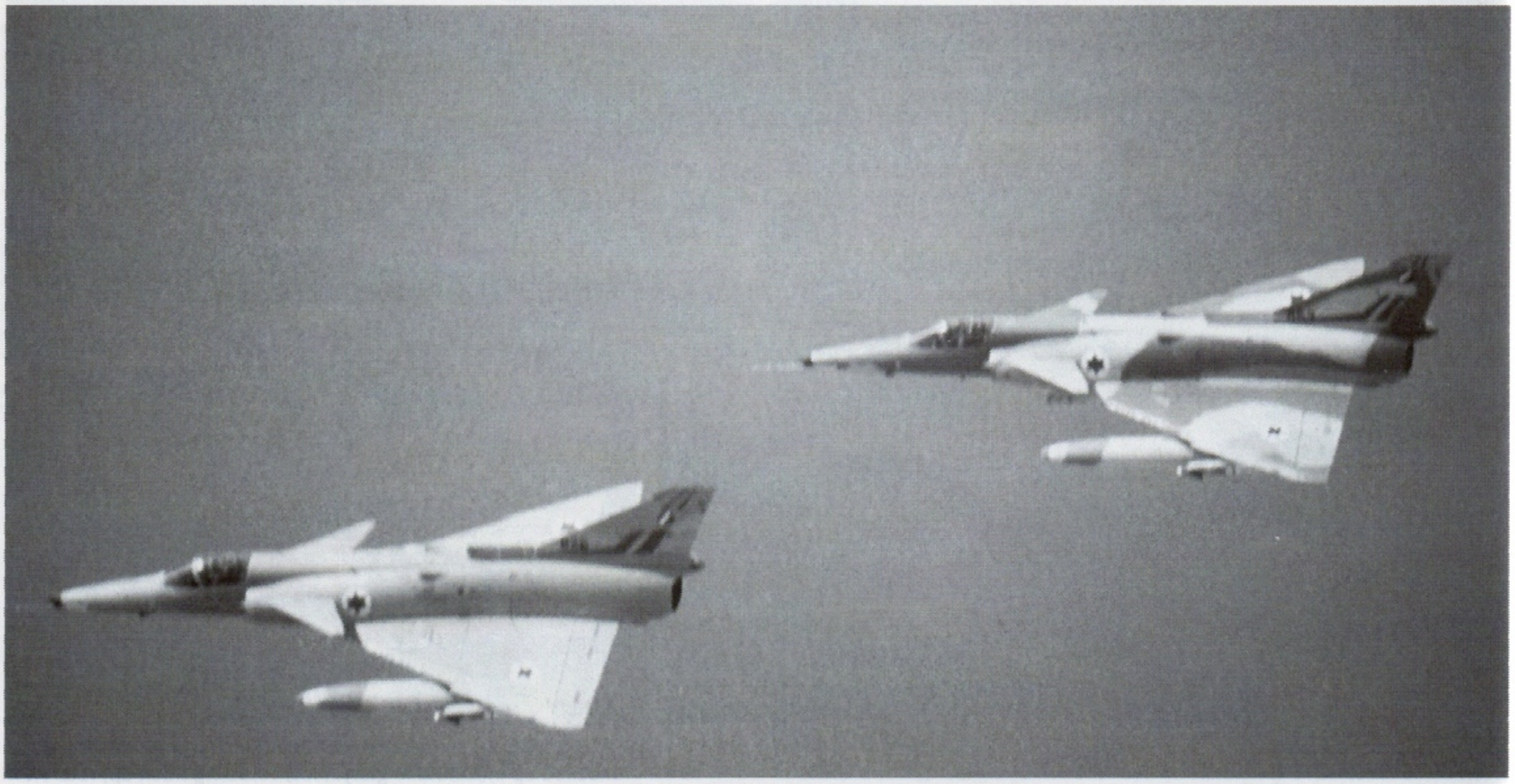
The SAM's greatest nemesis: the AGM-78 Standard Arm "Purple Punch" anti radiation missile; the weapon which has proved its lethality during the IAF's epic blitz of the Beka'a Valley missile network in June 1982. (Michael Zarfati/IDF Spokesman)



During an Independence Day display, a ***Kurnas***-2000 is mocked up in full battle glory. Note refueling hook-up, rear-view mirrors to cockpit, and additional fuel tank. (Courtesy—Yoav Efrati)

Super Phantom/***Kurnas***-2000, fully armed with a wide assortment of ordnance, heads towards its target during a "routine" counter-terrorist strike. (IDF Spokesman)

Its chute wide open, a ***Kurnas*** [or "Sledgehammer"] returns to base after another "job well done." Although now in its 25th year of service with the IAF, the Super Phantom is still a front line combat aircraft. (IDF Spokesman)



Two ***Kfir*** C-7s, the last variant of the "Lion's Cub" to be produced by Israel Aircraft Industries, fly in formation above the mountains of northern Israel. The ***Kfir*** in the gray scheme is in air-superiority role, while the camouflaged aircraft is in its ground attack scheme. (***Biton Heyl Ha'Avir***)

Two **Kfirs**, armed with air-to-air missiles, patrol the skies over northern Israel. Note additional fuel tanks carried in case some additional combat aerial time is required. (***Biton Heyl Ha'Avir***)

A master ground crewman readies his pilot's **Kfir** C-7 for a training flight just after dawn at an anonymous airbase in southern Israel. Note that **Kfir** is in a ground attack camouflage scheme. (***Biton Heyl Ha'Avir***)

A **Kfir** C-7, painted in its air-to-air superiority role and equipped for air-to-air combat, prepares to take-off from an airbase in central Israel. (***Biton Heyl Ha'Avir***)

The beginning of a sand storm does not deter the **Kfir** and his pilot from a few hours flight time in southern Israel. A great boost to the image of the **Kfir** was the decision of the U.S. Navy to use the aircraft in an adversarial role in its Top Gun School. (***Biton Heyl Ha'Avir***)