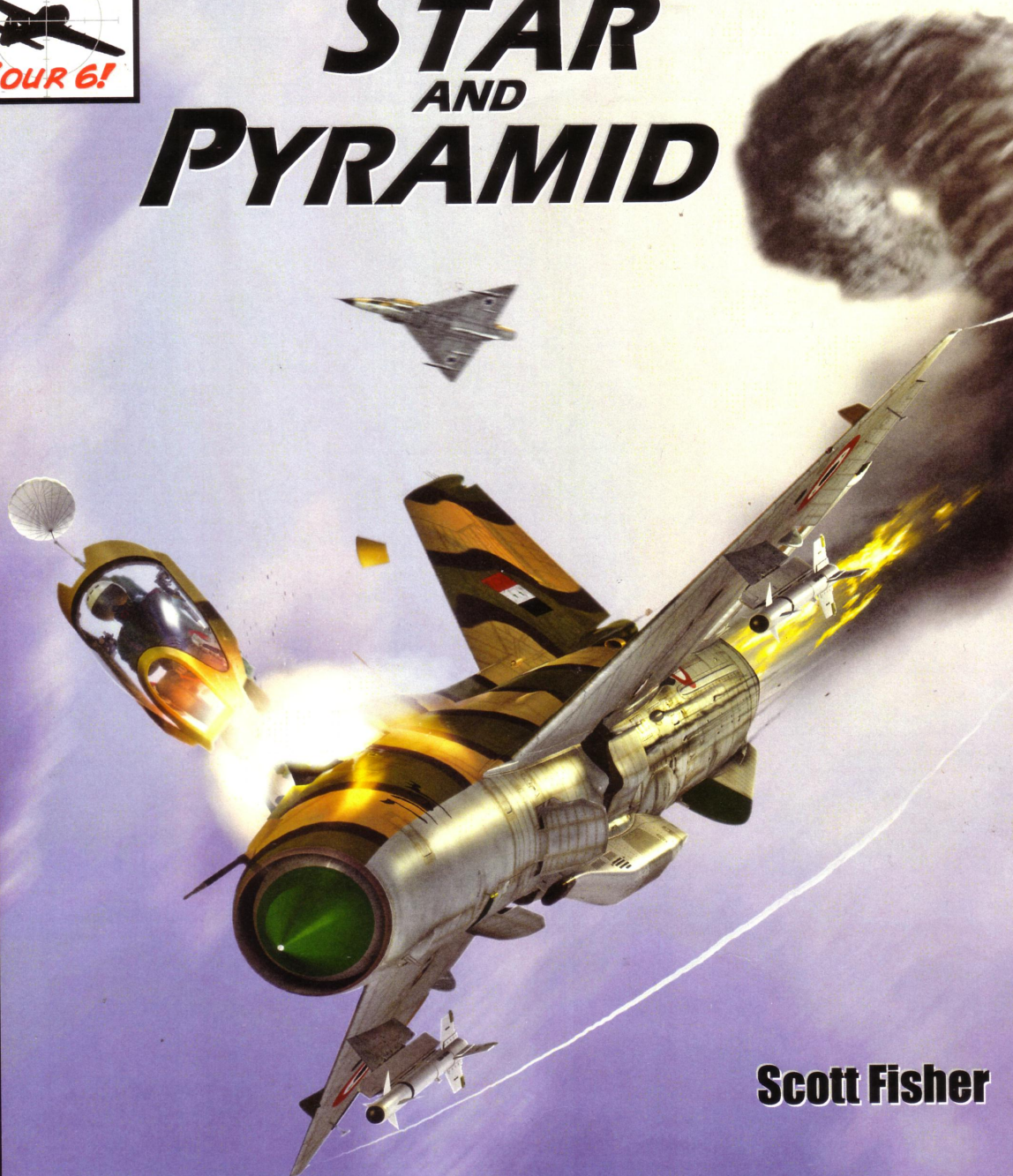




STAR AND PYRAMID



Scott Fisher

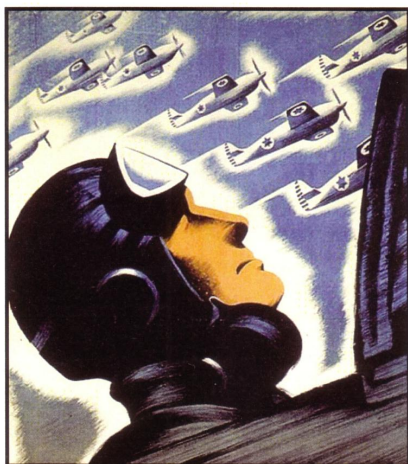


**JET COMBAT 1966-73
ISRAEL vs. EGYPT**



From the Designers of *Skirmish Campaigns*

STAR AND PYRAMID



Introduction	2
Acknowledgements and Dedication	3
Annotated Bibliography	3
Campaign Map	4
Campaign History	5
Six-Day War Campaign: Nov 1966 – June 1967	6
Attrition War Campaign: April 1969 – June 1972	8
Yom Kippur War Campaign: October 1973	11
Color Schemes	14
Campaign Aircraft	16
Campaign and Scenario Rules	17
Special Campaign Events Tables	20
Scenario Format	21
Campaign Scenarios	22
Six-Day War: Operation MOKED Campaign	22
Six-Day War: Desperate Defense Campaign	28
Attrition War Campaign	34
Yom Kippur War: War of Revenge Campaign	42
Yom Kippur War: Battle for Victory Campaign	48

SC-04-08

CHECK YOUR 6 JET AGE™
STAR and PYRAMID



© Scott Fisher 2011
SkirmishCampaigns
Publications
fisherts@verizon.net



ARTWORK:

The beautiful front cover shows an Egyptian MIG-21MF just after being hit; it was created by the extremely talented **Gaël Elégoët**. See more of his work at: <http://gaegot.free.fr>. Most of the unit badges on the back cover and the aircraft views on this page were created by the multi-talented **Tom Cooper**. The back cover was painted by veteran aviation artist **Roy Grinnell** and shows Giora Rom's *Nesher* fighting. We greatly appreciate the generosity of Gaël, Tom and Roy for allowing us to use these images.



Please visit the **CHECK YOUR 6!** website for downloads, vendors and product updates:

www.skirmishcampaigns.com

CY6! won the 2007 Origins Award for Best Historical Miniatures Rules

Also see the CY6 Yahoo Group (over 1000 members): <http://games.groups.yahoo.com/group/cy6/>



STAR AND PYRAMID

STAR AND PYRAMID

Introduction

"What has been taken by force will be returned by force."

-Abdel Gamal el-Nasser after the 1967 Arab-Israeli War

No study of jet combat in the 20th Century would be complete without a focus on the vast air wars fought between Israel and her enemies. Initially, we set out to make an all encompassing book on the Arab-Israeli air wars between 1963 and 1973, however, the combat between these antagonists over this period turned out to be too vast both in terms of number of engagements and losses for one scenario book, even one extra large one. In the end, we decided to focus this book on Egypt and Israel since it was their struggle whose outcome would decide which controlled the air in each of the three periods covered. Egypt simply had the bulk of Arab air power in the period. For example, the Egyptian Air Force (EAF) had roughly 400 combat aircraft in 1967 as compared to about 136 combat aircraft in the Syrian Air Force at the same time. In addition, the Syrians by comparison had one of the more poorly trained Arab Air Forces; though it should be noted that the skill of Jordanian and Iraqi pilots was held in relatively high regard by the Israeli Air Force (IAF). After over two years of research, we decided to break the period covered into three primary campaigns: the War of 1967, the so called "Attrition War," and the Yom Kippur War of 1973.

Researching "fact" for this book proved elusive. We tried diligently to use sources from both sides but they often were vague and seldom agreed about any one action. To our great surprise, there was *less* "official documentation" in English for this period than for our previous project on the Korean Air War. In government (US, Chinese, and Soviet) accounts of the air war over Korea there was much official obscuration of the truth, but recently US and Soviet pilots have published frank accounts of the actions. For the Egyptian-Israeli air war, while there are numerous Israeli "ace" memoirs, but these are often one-sided and without accounting for Egyptian claims and writings. Really, only a few academic English language sources are available from the Egyptian Air Force (EAF) side; written by only a few authors whose work has been criticized by Israeli officials (see Annotated Bibliography). Aircraft loss claims (on both sides) are a prime example of the suspect "facts" encountered in researching this book; specifically the sources recording aircraft losses are in some cases questionable at best. Recent scholarship has cast doubts on Israeli claims; some even suggesting a *systematic and deliberate* campaign to inflate the claims (in one case as much as 50%).¹ In one notable example, some sources record that Israel lost only 4 aircraft in the 1967 war to air-to-air combat, while one EAF Brigade commander, interviewed long after the war claimed his unit alone scored 22 kills in the air; this claim became less suspect when he released gun camera footage showing several of the kills.² In the end, we simply acquired as many sources as possible, and compared them in search of what really happened. In the few cases where sources agree, we have noted this in the Scenario Aftermath sections.

The three major periods covered in this book are each quite different in terms of hardware, strategy and tactical approach. In 1967 Egypt was more prepared in terms of training and experience but was the victim of a surprise attack. In 1973, the EAF attacked first, had relatively less experience, but was advantaged by its limited initial objectives (defend the Suez Canal bridgehead) protected by masses of modern surface-to-air missiles (SAMs) and anti-aircraft artillery. In the 1967 Six-Day War, overall loss ratios seemed to be about 10:1 in favor of Israel, but in 1973 the ratio was only 4:1.³ The difference in orientation and preparedness between these two campaigns is exemplified by comparing EAF aircraft losses on the ground; in 1967 the EAF lost as many as 378 aircraft, while in 1973 only 22 aircraft were lost on the ground.⁴ The dramatic reduction in losses is particularly explained by Egypt's massive Air Force construction projects, including the building of over 20 new bases, hardened aircraft shelters, and the development of roads for use as alternate airstrips.⁵ The Attrition War, filled with nearly constant air combat, and with *direct* Soviet involvement on the ground and in the air was yet another beast altogether. The Attrition War marked the transformation from gun-only air-to-air combat to early missiles, both SAMs and air-to-air.

In this book we focused on competitive engagements where *both* sides had a chance to win rather than one-sided affairs – in this way we hope to provide scenarios that give players a sense of the kinds of missions, aircraft, and technology in this epic struggle. Players will find that many of the scenarios have ground-to-air and air-to-ground action. Historically all the campaigns were truly low-level affairs due to advances at first in radar then in SAMs. We also broke the periods down into smaller campaigns that can be casually played over a reasonable amount of gaming sessions or over a long weekend by a dedicated group (like many of our playtests).

The Air War between Israel and Egypt from 1966 to 1973 is an incredibly interesting period to wargame. This era saw the transition from gun-only combat to one featuring guns and missiles and also became the proving ground for both Soviet and US weapons. We hope the readers of this book will enjoy learning the details of this fascinating conflict as much as we have.

¹ Tom Cooper, *Arab MiGs - Vol. 1*, Houston: Harpia Publishing, 2009, p.124.

² Lon Nordeen, *Air Warfare in the Missile Age*, Washington: Smithsonian Institution Press, 2002, p.142.

³ Anthony Cordesman & Abraham Wagner, *Lessons of Modern War*, Vol. 1, Boulder: Westview Press, 1990, p.18.

⁴ Lon Nordeen, *Fighters Over Israel*, New York: Orion Books, 1990, p.199.

⁵ Peter B. Mersky, *Israeli Fighter Aces - The Definitive History*, North Branch: Specialty Press Publishers and Wholesalers, 1997, p.92.

Acknowledgments

Thanks to Brian "Burner" Cantwell, Sandy "Hit the Silk" Botond, and most especially Tom "Growling Tone" Ballou for their excellent campaign playtesting and for lots of editing assistance. Thanks to Tom Cooper for his generous research help and the use of several images. Tom is an incredible author and dedicated researcher. Also thanks to "Red" Rob Wubbenhorst for playtesting help and for writing the Color Schemes section of this book. Again, as with past books, special thanks to Alvin "Sidewinder" Gunkel who, as always, helped with editing and found many errors. As always, I would like to thank our Northern VA Playtesting group: Mark "Bizmarkie" Fastoso, Sean "Fresco" Barnett, "Fast" Eddie Stewart, Tim "Bomber" Tilson, Rob "Snort" Givens and several others. I would also like to thank my brothers Todd and Sean, and my father, for our marathon playtests of these campaigns. Most importantly, I would like to thank my ever patient family for putting up with my quest to find the truth concerning the air war between Israel and Egypt.

Dedication

This work is dedicated to the memory of all airmen who fought in the skies between 1966 and 1973 over Israel, the Sinai, and Egypt. The research in this book was conducted in pursuit of historical accuracy; I hope this work will, in some way, allow us to better understand the sacrifices of the brave airmen on both sides.

Annotated Bibliography

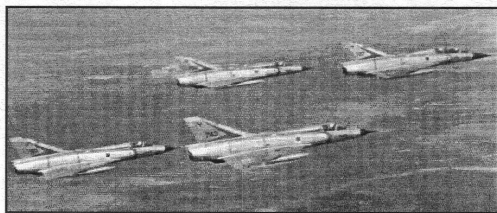
Many sources were used for this book, the most important are listed below with comments in *italics*.

- ACIG Website** (www.acig.org) – filled with excellent content for the period covered and for the Jet Age in general.
- Aloni, Shlomo, **Israeli F-4 Phantom II Aces**, Oxford: Osprey Publishing, 2004. Good detail (from an Israeli perspective) of pilots, engagements, weapons and units of the Israeli F-4 force.
- Aloni, Shlomo, **Israeli Mirage and Nesher Aces**, Oxford: Osprey Publishing, 2004. Excellent detail (albeit from an Israeli perspective only) of pilots, engagements, weapons and units of the Israeli Mirage and Nesher force.
- Aloni, Shlomo, **Mirage III vs. MiG-21 – Six Day War 1967**, Oxford: Osprey Publishing, 2010. A broad overview of the combat between Mirage and MiG-21 in 1967, nice pictures and diagrams but a bit sparse on technical details.
- Brzoska, Michael and Pearson, Frederic, **Arms and Warfare**, Columbia: University of S. Carolina Press, 1994. This book contains some interesting statistics and themes focused on vast arms imports from the USSR and USA.
- Cooper, Tom and Nicolle, David, **Arab MiGs - Volume 1**, Houston: Harpia Publishing, 2009. Tom Cooper is one of the leading sources on Arab and Egyptian Air Forces and aircraft. His work is based on many official and more unofficial sources in Africa and Israel and he actively seeks the "real" story. We cannot recommend his books highly enough – they are a must for all folks interested in the modern jet combat.
- Cordesman, Anthony and Wagner, Abraham, **Lessons of Modern War, Vol. 1**, Boulder: Westview Press, 1990. This is a useful overview source of statistics and information about the period covered – though rare and expensive.
- Eshel, David, **Born in Battle – The Israeli Air Force**, Israel: Eshel DRAMIT Ltd., 1978. An Israeli view of the period with several interesting details, excellent pictures and some good maps.
- Eshel, David and Ulanoff, Stanley M., **The Fighting Israeli Air Force**, New York: Arco Publishing, 1985. A good overview summary of the period, this book is essentially the same content as in *Born in Battle* above, with a few more details.
- Ginor, Isabella and Remez, Gideon, **Foxbats Over Dimona – The Soviets' Nuclear Gamble in the Six-Day War**, New Haven: Yale University Press, 2007. This book is a poorly edited compilation of the authors' previous works detailing the Soviet involvement in the lead up to the 1967 War, and Israeli Nuclear concerns. The thesis is fascinating and some of the details presented equally so; for example the account of Soviet MiG-25 over-flights of Israel.
- Mersky, Peter B., **Israeli Fighter Aces - The Definitive History**, North Branch: Specialty Press Publishers and Wholesalers, 1997. Mersky clearly had direct access to several Israeli aces for this book. In some ways, a classic "fan book" focused on Israeli accounts of the wars in the period but also has some interesting and unique facts not recorded in other sources.
- Nicolle, David and Cooper, Tom, **Arab MiG-19 and MiG-21 Units in Combat**, Oxford: Osprey Publishing, 2004. Nicolle and Cooper are the preeminent scholars publishing in English about the Egyptian Air Force. An excellent and detailed account of primarily EAF MiG-21 units in combat – a *must* for anyone seriously interested in the period.
- Nordeen, Lon and Nicolle, David, **Phoenix Over the Nile**, Washington: Smithsonian Institution Press, 1996. This book, while academic in nature, brilliantly covers the history of the EAF and includes many details and quotes from numerous engagements. It also covers the internal politics and relationship with the Soviets in great detail. A "must" buy.
- Nordeen, Lon, **Air Warfare in the Missile Age**, Washington: Smithsonian Institution Press, 2002. This is the definitive survey book of the period, covering all major air actions in some detail. While short on tactical stories (as necessitated by its scope) it is an excellent overview of all modern air campaigns filled with enough information to get a good understanding of each of them. Expensive, but well worth every penny.
- Nordeen, Lon, **Fighters Over Israel**, New York: Orion Books, 1990. Surprisingly good for its compact length, this book is has excellent detail and seemingly fair coverage of both sides in the conflict.
- Pollack, Kenneth M., **Arabs at War**, Lincoln: University of Nebraska Press, 2002. An excellent military, political, and cultural account of Arab-Israeli warfare in the period. This book attempts to explain why the Arabs consistently loose battles while superior "on paper" to their opponents.

Campaign Map



Campaign History



There are many volumes already written about the Arab-Israeli air wars, each contributing small pieces to the overall history. As noted in the introduction to this book, finding "truth" at the tactical level in this period is difficult (at best), with most accounts being Israeli in focus and having been subject to some official censorship or political agenda. We have tried to get the numbers quoted in the history section as accurate as possible, using combinations of multiple sources; these reports, however, often conflict with each other or with logic. The history section for each major campaign is organized to communicate the strategic/operational contexts for the air battles depicted (*Conflict Background* sections), developments that shaped the campaign (*Tactical Developments* sections), and give a brief synopsis of the campaign (*Summary of the Campaign* section). We have tried to focus solely on key events and factors that influenced the air fight in the campaigns covered.

Several key factors influencing the combatants in this period are important to understand as general background to the campaigns presented. One of the most obscure but important factors in the air battles fought between Egypt and Israel is the difference in sortie rates. For purposes of this discussion, sortie rate represents the ability for an air force to fly the same aircraft multiple times per day. While numerically the Israelis always had fewer aircraft, they maintained very high sortie rates, in essence giving them the numerical advantage in numbers of missions flown. The IAF was routinely able to turn around aircraft in as little as 15 minutes, allowing as many as 6 sorties per day. This compares with an average EAF sortie rate of just 2 sorties per day.⁶ Effectively then Israel, with fewer aircraft, was able to fly many more missions per day than the Egyptians.

Part of the explanation for such a difference in sortie rates is the poor *readiness rates* of most Soviet-built aircraft. While often overlooked by wargamers, and contrary to commonly held beliefs about the robustness of Soviet weaponry, Soviet-built aircraft in the service of Egypt were often unable to fly. In general Soviet-built aircraft had to be serviced much more often than western aircraft. For example, the US-built F-5 required no major work until 2000-2500 flying hours while the Soviet-built MiG-21 required a major overhaul every 500 hours. Significantly, this

meant that up to a *third of the fleet* would be out of service at any one time; understandably, the operator of such a fleet would have to increase the size of the fleet by a third over western aircraft to maintain the same number of flyable aircraft. Soviet engines were also a problem, as components often had to be replaced every 10 hours. This meant that aircraft were often without engines while engines were being replaced or serviced. In addition, Soviet spare parts systems used full components rather than individual parts, making cannibalization handy but all too easily degrading the fleet and making order of individual parts for repair more complex.⁷ Notably, the MiG-21 tended to operate from two to three years (at maximum) before requiring a complete rebuilding process, in most cases requiring either advanced shop facilities or servicing in the USSR.⁸ The MiG-19 was also noted to be hard to maintain. The decrease in readiness rates may have started with the MiG-19 as earlier Soviet-built aircraft seemed to be simpler and more maintainable. The MiG-17, in EAF service for example, was reported to have a particularly good readiness rate; one report stated that these aircraft maintained a 75-80% average readiness.⁹

Related to maintenance but a far more serious indicator of Soviet design and construction approach was the survivability of late model Soviet-built interceptors. Most notable was the MiG-21 which, while able to withstand great g-forces, was not constructed to survive weapons hits; most notably it did not even have self sealing fuel tanks (this was noted on several occasions by Israeli pilots discussing how the MiG-21 would seemingly burst into flames when hit). Also of issue was the performance of Soviet-built ejection seats. While, on average, these seats performed their purpose, they were of a significantly different design than western seats. Soviet ejection seats used a mine-like explosive charge rather than rocket motor. One story concerning these seats was particularly interesting; three (now) senior and former MiG-21 pilots visiting a USAF base in California met and exchanged stories. All had ejected after being shot down by Mirages and all had kept their left hand on the throttle while pulling the eject handle with their right hand. In all cases, they had broken their left arm when the explosion detonated to push the seat out of the aircraft.¹⁰ While a seemingly minor wound, these pilots all ejected over Egyptian territory and could have participated in follow-on battles had the seat not broken their arms.

Aircrew training also played an important role in the outcome of the air battles between 1966 and 1973. Surprisingly, the EAF and IAF had similar flight

⁶ Nordeen, *Air Warfare in the Missile Age*, p.94.

⁷ Tom Cooper, *African MiGs - Vol. 1*, Houston: Harpia Publishing, 2010, p.176.

⁸ Tom Cooper, *African MiGs - Vol. 1*, p.229-230.

⁹ Cooper, *Arab MiGs - Vol. 1*, p.154.

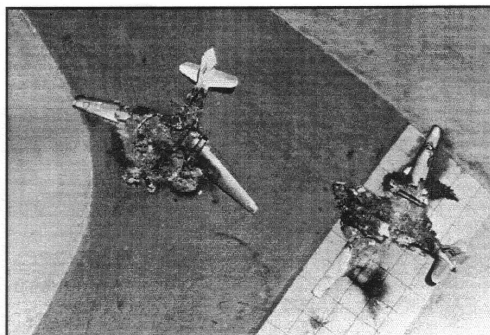
¹⁰ Mersky, *Israeli Fighter Aces*, p.52.

training programs in terms of overall hours with the EAF committing 163 hours to training each pilot and the IAF spending 170 total flight training hours. However, after flight training, the amount of resources applied to annual training was *significantly* different with Israel budgeting a minimum of 200 hours annually while EAF crews flew only 60-72 hours per year (the EAF had had actually programmed 150-180 hours per year but actual time flown was less).¹¹ For example, one shot down EAF pilot reported he had only flown 1400 hours in thirteen years of flying.¹²

Another important factor to consider is the tactical doctrines adopted by the EAF and IAF in air combat training. While the EAF initially held to tactics and doctrine from the United Kingdom, by the mid 1950s it had shifted its focus to adopt the doctrine and tactics of its new Soviet superpower partner. This transformation was complete by the mid 1960s. Soviet doctrine involved a high reliance on Ground Control Intercept (GCI) radars and course control, reducing the ability of flight leaders to make tactical decisions. Also, in the mid 1960s Soviet doctrine relied on the accuracy of missiles to destroy the enemy rather than any focus on guns. This reliance on missiles was similar to contemporary US doctrine; both doctrines were manifested in the development of mid-60s interceptor aircraft armed only with missiles (primary examples include MiG-21PF, F-4, & F-102).

IAF doctrine, however, was focused on close-in gun combat. This doctrine was forged in the air battles of 1948 and 1956 and further fueled by the inaccuracy of early Israeli air-to-air missiles. Due to international arms embargos after Israel's early wars, the IAF developed its own early heat-seeking missile, the Shafrir 1. This missile had a particularly poor reputation and very poor performance. These problems, in concert with problems with the Matra R530 radar homing missiles acquired with the Mirage purchase from France, made the IAF focus on guns understandable. This "laser" focus on gun combat nearly became a detriment to the force when missiles started to become effective to the level promised in the early 1970s.

Finally, Soviet involvement had a preeminent strategic impact on Egyptian and Israeli planning between 1966-1973. This involvement contrasts directly with the seemingly limited US involvement; US Policy was focused on Vietnam and its attempts to preserve links to Arab states. Soviet involvement included the feeding of false intelligence to Egypt about Israeli threats to Syria and major movement of Soviet Naval units (1967), major arming initiatives, and direct involvement of Soviet combat forces. Direct missions included MiG-25 jet flights over the Israeli nuclear reactor at Dimona and even one report of nuclear weapons deployed in Alexandria harbor in 1973.¹³



Six-Day War Campaign: 29 Nov 1966 – 8 June 1967

CONFLICT BACKGROUND

Based on Soviet intelligence reports concerning a growing Israeli threat to strike Syria, and bending to pressures from the Egyptian military leadership and the "Arab street", Egyptian leader Abdel Gamal Nasser declared a general military mobilization on 14 May 1967. The next day, he ordered the UN Sinai peacekeeping force to leave and declared his intent to close the Gulf of Aqaba to Israeli shipping. These events lit the fuse on the Six-day War. Israel could not stand by and allow Egypt to effectively close the Israeli port of Elat which was Israel's lifeline to the south and provided easy access to critical Iranian oil.

At the heart of strategic decisions made in Egypt was Nasser's relationship with Egypt's Military Chief-of-Staff Abdel Hakim Amer. Amer was a close friend and a co-conspirator with Nasser in the 1952 coup that overthrew Egypt's King Farouk. In the aftermath of the coup, Nasser emerged as the political leader of Egypt and Amer was promoted (bypassing four military ranks) to become Chief-of-Staff of the military. Amer was known to be corrupt and exceedingly ambitious and Nasser attempted to placate Amer's ambitions by appointing him to higher and higher positions. Nasser also allowed Amer to replace much of the Egyptian military leadership with his cronies who were promoted based on loyalty to Amer rather than on merit. Prior to the actions that helped provoke the 1967 War, Nasser reportedly feared a coup led by Amer.

In the weeks before the conflict, as tensions mounted, Israel pressed the United States, repeatedly requesting assurances and security guarantees to counter the increasing Egyptian build up and rhetoric (the Egyptians had, in fact, developed a first strike plan called "Dawn" that was called off just days before the Israeli attack in June). Israeli concerns were fueled by the ejection of the UN force from Sinai, the blatant closing of the Straits of Tiran, and exacerbated by intelligence reports that additional Egyptian divisions were moving into Sinai.

¹¹ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.87 and Cooper, *Arab MiGs - Vol. 1*, p.154.

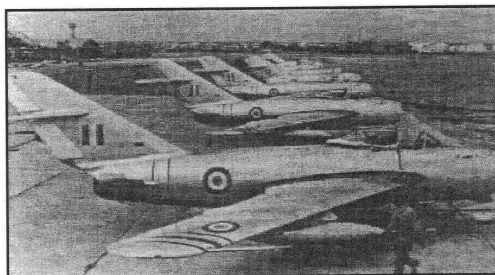
¹² Nordeen, *Air Warfare in the Missile Age*, p.108.

¹³ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.108.

Israel was especially sensitive to the perceived threats to its nuclear reactor at Dimona and its fledgling nuclear program. According to one source, Dimona was at this time about to or had just produced enough nuclear material to fuel nuclear weapons.¹⁴ Israeli concern about the security of Dimona was greatly exacerbated by several Egyptian and Soviet overflights of the reactor complex, mostly between 14 May and 4 June 1967. Soviet flights were of most concern as they were not intercepted and were conducted by early MiG-25s. In addition, there were reportedly even earlier incidents including one flown by EAF MiG-17s in 1965.¹⁵

Nasser continued to believe that closing the straits would not lead to war but rather to a political solution. In essence, he was gambling that he could gain political capital (at home and abroad) by confronting Israel. He continued in this vein as late as 23 May. After this date, some plans were suspended and air units in Sinai were ordered to disperse in preparation for possible hostilities. Only a handful of MiG-17s remained, for example, deployed at el-Arish, Bir Thamada, and El Sur in Sinai by 2 June.¹⁶

Unable to gain significant security assurances from the United States and fearing a combined Arab attack, possibly involving direct Soviet intervention (in fact the Soviets had planned on this possibility) and fearing a devastating first strike on Dimona, Israel resolved to launch a preemptive first strike thereby removing any possibility of a coordinated Arab assault.



TACTICAL DEVELOPMENTS

The average experience level in the Egyptian Air Force was probably at its greatest just prior to the 1967 war. Even though annual training hours were limited, approximately one-third of all EAF pilots had seen combat experience in Yemen prior to the war, though this experience was limited to ground-attack missions.¹⁷ However, ironically, the EAF had a very small overall number of jet-trained pilots; Egyptian Field Marshal Fawzy listed the number of qualified MiG and Sukhoi pilots at less than 200 in 1967.¹⁸ This

lack of pilots was accelerated by large numbers of recently delivered Soviet-built aircraft. Several sources note that around 1 June 1967 Egypt had about 380 fighters (with over 580 total aircraft).¹⁹ However, even these numbers have been questioned; again by Egyptian Field Marshal Fawzy. Fawzy claimed that the EAF had only 260 combat aircraft with only about 200 ready at any one time. He notes that an additional 74 aircraft were in crates awaiting assembly by Soviet technicians.²⁰

On the Israeli side, the French-built *Mirage III* would form the basis of the fighter force for the 1967 war. While overall used to great effect by Israeli pilots, the aircraft did have several disadvantages. Primarily of concern was its relatively ineffective radar; incapable of accurately finding or tracking targets anywhere near the ground, in fact, they were later (1970) taken out of the *Mirage* fleet and replaced with ballast. In addition, numerous problems with the factory gun-sight were experienced; in the end the "fix" was an IAF developed and installed sight that had fixed ranges that were dialed-in by the pilot. These sights were relatively crude but ultimately proved effective.

In addition to several teething problems, the *Mirage* was plagued with missiles that performed poorly. Due to embargoes placed on arms sales to Israel, the Israeli defense establishment was forced to develop their own infra-red missile system, the Shafrir 1, which was first deployed in May 1963. This missile proved to be a severe disappointment performing very poorly in the 1967 war. Along with the 72 *Mirage IIIs* acquired from France was a limited quantity of radar-homing R530 missiles. In 1964, 101 and 117 Squadrons qualified on these missiles though many in the IAF doubted the system could deliver hits as designed.

The Egyptian fighter force was centered on the Soviet-built MiG-21. Though still relatively new, by 1967, the MiG-21 was a proven design. Quickly replacing the cantankerous MiG-19 in Soviet service, the MiG-21, by 1967, formed the center of the Soviet fighter force. Generally, Egyptian pilots liked the MiG-21, especially the earlier F-13 version that included an internal cannon. Numerous shipments to Egypt, starting in 1965, included the newer MiG-21FL (called the MiG-21PFM in the USSR²¹) which was not equipped with guns. These aircraft were solely armed with the Soviet AA-2 infra-red missile, a mediocre performing weapon derived from the US AIM-9B Sidewinder. Egyptian pilots would come to regret this; their stories are filled with comments about their MiG lacking a gun to deal with close-in IAF aircraft. After the 1967 war, Egypt would adapt most operational MiG-21FLs to carry gun pods originally developed for Indian MiG-21s.²²

¹⁴ Isabella Ginor and Gideon Remez, *Foxbats Over Dimona*, New Haven: Yale University Press, 2007, p.138-139.

¹⁵ Cooper, *Arab MiGs - Vol. 1*, p.150.

¹⁶ Cooper, *Arab MiGs - Vol. 1*, p.163.

¹⁷ Nordeen, *Air Warfare in the Missile Age*, p.92.

¹⁸ Cooper, *Arab MiGs - Vol. 1*, p.154.

¹⁹ Murray Rubinstein, *The Israeli Air Force Story*, London: Book Club Associates, 1979, p.96-97.

²⁰ Cooper, *Arab MiGs - Vol. 1*, p.158-159.

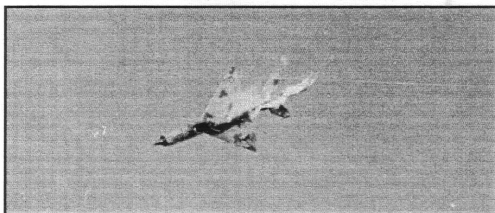
²¹ Shlomo Aloni, *Mirage III vs. MiG-21*, Oxford: Osprey Publishing, 2010, p.28.

²² David Nicolle and Tom Cooper, *Arab MiG-19 and MiG-21 Units in Combat*, Oxford: Osprey Publishing, 2004, p.10 and 24.

SUMMARY OF THE CAMPAIGN

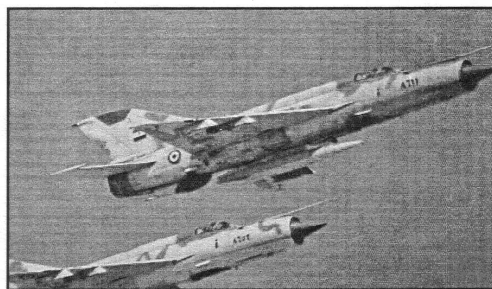
The Israeli Air Force attacked at 0830 Cairo time, just after Egyptian dawn patrols had landed. It was assumed that prior to 0900 EAF senior officials would be transiting to their offices.²³ By 0855 eleven airfields had been attacked and the IAF claimed more than 189 EAF aircraft destroyed on the ground. The aircraft of the first strike wave turned around in roughly 10-15 minutes and attacked a further 14 airbases claiming an additional 107 aircraft destroyed. An additional wave was launched at 0934.²⁴

Over the course of the next five days, the EAF would fight several air-to-air engagements as the Egyptian army commenced a confused retreat from their forward positions in the eastern Sinai. At the end of the conflict, Israel admitted to losing 46-50 aircraft (a significant portion of the IAF) while 20-24 pilots were reported killed in action. Overall, the IAF would fly 3,279 sorties with approximately one-third dedicated to air superiority and two-thirds in support of ground troops. The EAF on the other hand, greatly reduced in strength and massively disrupted, could only muster about 150 missions.²⁵



The Mirage force flew the vast majority of intercept and air superiority missions in the war and Israeli Mirage pilots were credited with 50.5 kills. Significantly, 28% of Mirage-flown kills came from four aces (including Giora Rom). Overall four Mirages were admitted lost by Israeli sources.²⁶

By the end of the initial fighting, regardless of the exact numbers, it was clear that the EAF had been mostly destroyed though it would bravely send aircraft into the air until the end of the war. Importantly, since most were destroyed on the ground, many of its experienced pilots would survive the war to become trainers and combatants in the later two conflicts.



Attrition War Campaign: 14 April 1969 – 13 June 1972

"Russian fist covered by an Egyptian glove"
- Brig. Gen. Mordechai Hod, IAF Commander,
describing the new Soviet threat.²⁷

CONFLICT BACKGROUND

The results of the 1967 War were painful but at the same time galvanizing for Egypt. The façade of Field Marshall Amer's military planning and command skills were forever broken and Egypt's leadership became convinced that a new approach was critical.

The EAF learned many lessons from the 1967 experience and wasted no time in addressing obvious vulnerabilities. Immediately after the war, plans were developed and existing ones implemented to better disperse aircraft, build hundreds of hardened aircraft shelters, and take other defensive precautions such as the preparation of dispersal "road" airstrips. Also, since few aircrews were actually killed in the Six-Day War, many of the EAF's experienced officers were still available to develop the force, implement lessons-learned, and train the force. In fact, in the months after 1967, Egyptian pilots developed their own manuals for the MiG-21, focused on close-in combat maneuvering. EAF sources claim that Soviet instructors did not teach "dogfighting" nor was this type of combat extensively covered in the Soviet Manuals provided. Basically, the EAF had to re-learn how to fly their aircraft, off the Soviet Model, now focused on the close-in fight at low altitude and high speeds.²⁸

While Egypt was repairing damage and developing new defenses, the Soviet Union re-doubled its weapons commitments to Egypt in the wake of the fighting. Within a short time, the USSR delivered 130 aircraft to Egypt; one source claiming that the Soviets delivered these aircraft in the first two weeks after the 1967 war.²⁹

In contrast, the IAF had a very hard time replacing losses from the Six-Day War. As in the past, the major

²³ David Eshel, *Born in Battle—The Israeli Air Force*, Israel: Eshel DRAMIT Ltd., 1978, p.37.

²⁴ Eshel, David and Ulanoff, Stanley M., *The Fighting Israeli Air Force*, New York: Arco Publishing, 1985, p.42-43.

²⁵ Mersky, *Israeli Fighter Aces*, p.51.

²⁶ Shlomo Aloni, *Israeli Mirage and Nesher Aces*, Oxford: Osprey Publishing, 2004, p.43.

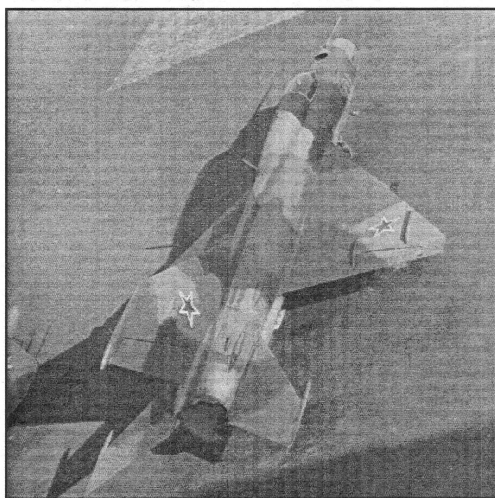
²⁷ Lon Nordeen, *Fighters Over Israel*, New York: Orion Books, 1990, p.111.

²⁸ Nicolle & Cooper, *Arab MiG-19 and MiG-21 Units in Combat*, p.36.

²⁹ Nordeen, *Air Warfare in the Missile Age*, p.103.

western powers were reticent to commit to major arms transfers in fear that they might jeopardize their ever fragile relationships with oil producing Arab states. While Israel managed to purchase *Mirage* fighters from France in the early 1960s, this relationship soured quickly after the Six-Day War when French leader General Charles DeGaulle declared an arms embargo in retaliation for the Israeli first strike.

In addition to massive weapons shipments, the Soviet Union also made commitments to directly support Egypt. In response to numerous incursions deep into Egypt and acquiescing to requests by the Egyptian government, in March and April of 1970 two Soviet Fighter Regiments (IAPs), each with 36 MiG-21MF, were deployed to Egypt under command of Vasily V. Okunev. Aircraft in these IAPs were flown by hand-picked and specially trained pilots – all “1st” or “2nd Class Snipers” (Soviet equivalent for excellent fliers). One Regiment, under the command of Col. Konstantin Korotiyuk, was deployed to Northern Egyptian airfields including Mansourah and Kom Awshim. The second unit, Col. Yuriy Nastenkov’s 135 Regiment, was deployed southwest of the canal at airfields including Kutamiyah, Cairo West, and Bani Suwayf. This deployment was a major commitment and, at its peak, over 20,000 Soviet personnel would be in Egypt.³⁰ In fact, the deployment would be one of the largest expeditionary forces deployed by the Soviet Union since World War II and would lead to direct combat between the Soviet Union and Israel.



TACTICAL DEVELOPMENTS

This period would be characterized as a period of major transition for the IAF. Between 1968 and 1972, additional and more effective aircraft and missiles from the United States would begin to equip the force. Now comprehending the massive amount of Soviet aid being delivered to Arab States and finally

succumbing to domestic pressures, the United States first agreed to supply Israel with A-4 attack aircraft, and later with the latest F-4 multi-role fighters.

By mid 1968 US-built A-4s began to arrive and make their initial flights. Then, on 5 September 1969 the first F-4E Phantoms, called “Heavy Hammer” or “Sledgehammer” (Kinnass) began to arrive in Israel. US aircraft were more expensive and complex to maintain than the relatively simple French models, forcing major expansions in terms of technical skills and supply within the IAF.³¹ In addition to new aircraft, it was determined that due to the new dynamics of air combat in the Middle East, all IAF fighters would be painted in a camouflage scheme. The painting of *Mirage* aircraft started prior to 1968 with most being completed by the end of that year.

The Attrition War period was also a time of transition for air-to-air missile systems in the IAF. Prior to March 1969 Israel had to rely on the poor performing, indigenously designed, Shafrir 1 system. In fact, the performance of Shafrir 1 was so poor that prior to 1970, Israel actually modified several *Mirage* fighters to carry captured Soviet-built AA-2 Atoll infra-red missiles. In mid-1969, the first shipments of AIM-9B Sidewinder began to arrive from the United States. The AIM-9B was a first generation infra-red missile but proved to be more reliable and accurate than the Shafrir 1. By July 1969, the IAF began to deploy the new, indigenously designed, Shafrir 2 infra-red missile with 117 Squadron and soon to others. The development of Shafrir 2 began soon after it was determined that the Shafrir 1 would be a disappointment and proved to be a dramatic improvement over its predecessor. The Shafrir 2 had a more effective seeker head, better high-g performance and better overall reliability. In March of 1970, Israel started to acquire stocks of the AIM-9D Sidewinder; this missile came to the IAF along with newest F-4E shipments. The AIM-9D was a US Navy development of the prior AIM-9B and had a redesigned engine, seeker and warhead. Presumably in the same period, the IAF acquired stocks of the newest AIM-7E2 “Dogfight” Sparrow missile. The AIM-7E2 had been developed by the US in response to the extremely poor reliability and performance of the AIM-7 in Vietnam. The new missile had a shorter minimum range and dramatically enhanced high-g firing capabilities when mated to the F-4.

Also in 1970, Israel deployed, for the first time, US-built AN/ALQ-101 Electronic Countermeasures Pods. The pods were deployed in response to the massive build-up instigated by the influx of Soviet supplied Surface-to-air Missiles (SAMs). The first use of the pods was on 18 July 1970 but was reportedly “unsuccessful” – do to the shadowy nature of electronic warfare at the time no further information appears to be available as to why.³²

³⁰ Eshel, *Born in Battle—The Israeli Air Force*, p.55.

³¹ Nordeen, *Air Warfare in the Missile Age*, p.106.

³² Shlomo Aloni, *Israeli F-4 Phantom II Aces*, Oxford: Osprey Publishing, 2004, p.91.

By 1968, the MiG-21 had completed its transition and was the primary fighter of the EAF. Due to an outcry from EAF pilots, right after the 1967 war, Egyptian MiG-21FLs were converted to carry gun pods. The MiG-21FL is export version of the MiG-21PFM which was designed to be an upgrade to the previous version MiG-21F-13. The twin 23mm gun pods were originally developed to retrofit Indian MiG-21s; India also had FLs and was frustrated with their lack of guns.³³

In the late 1960s the Soviet Union began development of an upgraded version of the MiG-21 that could carry not two, but four infra-red missiles and a more advanced radar plus had an internal gun. This version, the MiG-21MF, which was the model used by many Soviet fighter units, started deliveries to the EAF in late 1969, when the first of some 110 aircraft arrived. While delivery to the EAF commenced, the type was first used in combat over Egypt by Soviet crews in April 1970, when several were scrambled to intercept an IAF RF-4E.

While there is no doubt that Soviet supplied aircraft were the heart of the post-1967 EAF, much ingenuity, maintenance and extensive indigenous support was provided in Egypt by Egyptians. For example, Egypt modified many MiG-17s to improve their ground-attack capabilities by including additional rails for anti-tank (armor piercing) rockets and bombs. Most contemporary pictures show these modifications on the wings of EAF MiG-17s.³⁴

SUMMARY OF THE CAMPAIGN

Egypt, with Soviet support, wasted no time in pouring fuel on the already simmering post-war fire. In addition to the usual fiery rhetoric, on 1 July 1968, Egypt established a new Soviet model "Air Defense Command" with 30 SA-2 SAM batteries and more than 1000 Anti-aircraft Artillery guns.³⁵ As tensions rose amid periodic clashes between Egyptian and Israeli ground forces, on 8 March 1969, Nasser announced that Egypt would wage and win a "War of Attrition" against Israel. Soon thereafter, Egyptian artillery launched a series of attacks on Israeli positions in the now occupied east bank of the Suez Canal. Through most of May and June, Egyptian artillery strikes killed some 194 Israeli troops.³⁶ In Israel, these casualties could not be tolerated, either militarily or politically and by the end of July, the IAF had committed to a campaign of air attacks on Egyptian artillery and missile sites.

With the artillery bombardments and air incursions continuing and with no apparent end in sight, Israel decided upon a more "strategic" approach to the war. Starting on 7 January 1970, the IAF would initiate "Operation Blossom" which committed to a campaign of deep strikes into Egypt in hopes of breaking the

Egyptian political will to fight. A series of violent air attacks was executed, targeting three key bases all within 35-miles of Cairo, including Inshas, the main Egyptian MiG-21 maintenance and repair center.³⁷



As IAF strikes continued, pressure mounted on the Egyptian leadership. The strikes, witnessed by the population of Cairo, were creating pressure from the same "Arab Street" that had forced Nasser into the 1967 war. Finally, on 22 January 1970, after a whole month of deep IAF strikes into Egypt, Nasser travelled to the USSR to plead for more weapons and support. Meetings there were held at very high levels, with one meeting including twelve Soviet Marshals; the largest such gathering since WWII. As a result of these meetings, in February 1970, the USSR initiated "Operation Kavkaz", which included the deployment of Soviet Fighter Regiments, Soviet-manned Anti-Aircraft Artillery, and Soviet-crewed Surface-to-air Missiles. The operation would deploy the most extensive Soviet combat expeditionary force since World War II.³⁸

While Israeli intelligence knew of the Soviet deployments, it was early to mid April by the time Israeli ground-intercept units begin detecting Russian language transmissions from fighters flying over the Nile delta. On 17 April 1970, Israeli ground controllers called back a strike package flying over Egypt after it was discovered that Soviet flown MiG-21s were headed to intercept them.³⁹ By late April, Soviet patrols over Nile valley were commonplace and in an effort to de-escalate the conflict, the IAF decided to end deep interdiction missions and limited itself to missions within 25-miles of the Suez Canal.⁴⁰

The first four months of 1970 proved to be filled with intense action. In this period alone, the IAF flew over 3,300 sorties and dropped over 8,000 tons of bombs on bases deep within Egypt and on Egyptian positions around the Suez Canal.⁴¹

A new intensity reached the Attrition War on 29 June 1970 when, under cover of night, 12 batteries of newer (optical track) SA-2 SAMs and several batteries of SA-3 SAMs were moved, along with numerous AAA batteries, directly up to the west bank of the canal. These secret movements formed a new and more robust barrier to Israeli air activity in the area.⁴² Before the end of June, the Soviet-planned air

³³ Nicolle & Cooper, *Arab MiG-19 and MiG-21 Units in Combat*, p.10.

³⁴ Also in Aloni, *Mirage III vs. MiG-21*, p.28.

³⁵ Nordeen, *Air Warfare in the Missile Age*, p.112.

³⁶ Nordeen, *Air Warfare in the Missile Age*, p.105.

³⁷ Nordeen, *Air Warfare in the Missile Age*, p.108.

³⁸ Lon Nordeen, *Fighters Over Israel*, p.103.

³⁹ Eshel and Ulanoff, *The Fighting Israeli Air Force*, p.71.

⁴⁰ Lon Nordeen, *Fighters Over Israel*, p.105.

⁴¹ Mersky, *Israeli Fighter Aces*, p.64.

⁴² Nordeen, *Air Warfare in the Missile Age*, p.115.

⁴³ Lon Nordeen, *Fighters Over Israel*, p.110.

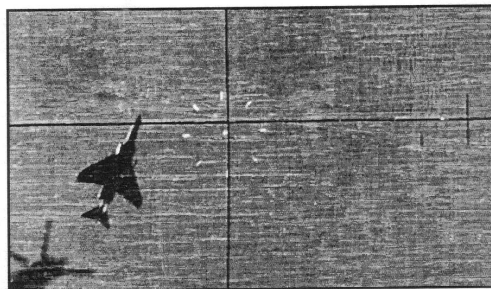
defenses would form near complete coverage over the Suez Canal with over 55 SA-3 SAM sites and numerous SA-2 sites.⁴³

On 30 June, as planned, Egyptian Air Defenses ambushed several Israeli strikes, shooting down two F-4Es over canal area with SA-2s. These clashes in June would lead to a direct Soviet and Israeli air combat on 30 July 1970 – bloodying the Soviet force and as a result “burning out” the conflict with each side realizing that the next step would be an unwanted escalation by both sides.⁴⁴

By 3 August, both sides were trying to arrange a cease fire. In the period before it came into effect however, both sides maneuvered to move key assets into position. At this time the Egyptians moved large numbers of SAMs closer to the canal resulting in the reported destruction of an F-4 by the new SA-6; these missiles were moved into the theater as a Soviet response to the direct clashes with the IAF. The cease fire took effect on 8 August but throughout the fall of 1970 Nasser moved additional SAM and AAA batteries closer to the canal in violation of cease fire agreements. These movements were met with Israeli protests but in the end Egypt simply ignored them. The Egyptian violations did however have the effect of spurring the US to provide Israel with additional Electronic Countermeasures equipment and new anti-radiation (counter-SAM) *Shrike* missiles.

The new Egyptian Air Defenses, including far improved radar coverage, necessitated new Israeli tactics. As an example, the Israelis often used “ambush” tactics to bring EAF into the air fight. The tactic would start with two aircraft flying at high altitude toward the canal; the aircraft would soon be detected by radar to trigger an interception. Once the EAF interceptors were launched and closing on their targets, several extremely low-flying, undetectable, flights of Israeli fighters would rapidly climb and “ambush” the EAF interceptors. One EAF officer reported that this tactic was used on three separate occasions against his squadron.⁴⁵

Of specific note are F-4 losses in the Attrition War. Nine F-4s were lost in the fighting, with a few lost to AAA but with the majority destroyed by SA-2 and SA-3 SAMs. These losses were an indicator of how the role of advanced air defense systems would change the fighting in the Middle East from that time forward.⁴⁶ In the end, the Attrition War ended before the Israelis could fully counter the SA-3 or fully comprehend the improved nature of Arab air defense. The IAF only marginally improved its ground attack methods to mitigate the new SAM threat.



Yom Kippur War Campaign: 6 – 19 October 1973

“We played the game by our rules and suddenly we did not know the rules or how to play. Until 1970 we had total air superiority. Then came the SAMs...We came in Yom Kippur...to fight like we did in 1967 but the conditions were different.”

- Nachum Merchavi, *Mystere* pilot in 1967 War and F-4 and A-4 pilot in 1973 War.⁴⁷

CONFLICT BACKGROUND

Along with the US conflict in Vietnam, the 1973 Yom Kippur War would be the first *true* electronic and missile war. This conflict would threaten Israel in ways as never before when in the first few days Israel would face a nearly united Arab attack and would be forced to absorb devastating losses as she reacted to new Soviet-built weapons, tactics and an Egypt determined to extract revenge.

From the beginning of war planning, the new Egyptian leader Anwar Sadaat had insisted on a strategy that would execute an extensively planned attack to cross the Suez Canal and establish a strong force on the east bank; the force would hold the bridgehead under an umbrella of Soviet-supplied SAMs and would utilize new man-portable anti-tank missiles to defend against the inevitable Israeli armored counter-attack.

As the new threat to Israel began to emerge, Israeli overconfidence blended with US diplomatic pressure. Still smarting from the Israeli surprise preemption in 1967, US Secretary of State Henry Kissinger and others ardently argued that Israel must resist any pre-emptive strategy in 1973. Coupled with US pressure, Israel's own threat assessments continued to focus on EAF aircraft numbers; Israeli Defense Force (IDF) intelligence assessments determined that Egypt would not be ready for war until some time in 1975. In Cairo, the Egyptian government had adopted Soviet operational strategies of the time and believed that aircraft numbers could be supplemented by use of short-range ballistic missile strikes. The Egyptian establishment believed that the IAF could be countered, locally in the area of the Suez Canal, by extensive and deliberate SAM emplacements plus

⁴³ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.20.

⁴⁴ Lon Nordeen, *Fighters Over Israel*, p.118.

⁴⁵ Nordeen, *Air Warfare in the Missile Age*, p.121.

⁴⁶ Nordeen, *Air Warfare in the Missile Age*, p.123.

⁴⁷ Quoted in Nordeen, *Air Warfare in the Missile Age*, p.135.

new man-portable SAMs and AAA. They also, to some degree, posited that tactical strikes by ballistic missiles (SCUDs) could counter Israeli air activity.⁴⁸

As a consequence of the political and military factors described above, between 1971 and 1973 Egypt was able to execute a brilliant deception plan that obscured preparations for the operation as training maneuvers and political rhetoric. In October 1973, Egypt had fully prepared for the cross-canal operation and plans were in place. In addition, Egypt had amassed one of the world's most substantial Air Defense forces, one that was even significantly larger than that of the United States.⁴⁹

TACTICAL DEVELOPMENTS

One significant development that would impact the Yom Kippur air war was the introduction of the *Nesher* (or *Eagle*). As a result of the Six-day war, France's President DeGaulle enacted an arms embargo on Israel cancelling a pre-paid order for 50 newly designed Mirage 5 jets. Through a Swiss engineer and several other covert avenues, Israel was able to obtain parts and plans for the aircraft and effectively copy its airframe and engine. The *Nesher's* first flight was in September 1969, a remarkably short time considering the nature of the design's acquisition. The aircraft was initially fitted with a French SNECMA Altar 9C engine, but was later fitted with a US J79 engine (same as in the *F-4 Phantom*). The end result was an aircraft with greater fuel capacity than the *Mirage III* allowing more time on target but at the cost of reduced maneuverability. The *Nesher* also had no air intercept radar; though due to practiced coordination between Israeli ground controllers and interceptors the lack of radar was not thought to be fatal. In a related development after the start of 1970, all air-intercept radars in the IAF *Mirage III* fleet were removed and replaced with ballast due to their ineffectiveness. By 1973, Israel had two squadrons of *Nesher* (113 and 144 Squadrons) and two mixed squadrons of *Nesher* and *Mirage III* (101 and 117 Squadrons).⁵⁰

By the late 1960s, based on operational experience in Vietnam, both the US Navy and US Air Force had recognized that the *F-4 Phantom* was at a significant dog-fighting disadvantage versus the smaller and more agile Soviet fighters being encountered. As a result of these experiences, the US initiated a wing upgrade program for the *F-4* that would develop improved wing slats allowing the aircraft to maneuver more effectively in close combat. While Israel had been experimenting with limited deployment of the wing upgrade kits soon after they were developed, the first unit to be equipped from the start with such aircraft was 107 Squadron. Starting with the "Peace Echo IV" shipments to Israel, 107 Squadron was equipped with *F-4E - Block 51* Phantoms built with slats. Upgrades to existing IAF Phantoms continued

to occur through late 1978. By the start of the Yom Kippur War, most *F-4Es* had yet to be upgraded and were still the "unslatted" versions.

The overall aircraft readiness rate for the EAF in this period was 65% and sortie rate much less than that of the IAF. In the Yom Kippur War, the EAF flew a total of 6815 sorties using 540 aircraft; this equates to just 0.6 sorties/day/aircraft. Sixty-five percent of the total sorties were ground attack or in support of troops.⁵¹ The IAF, however, managed to average from 2-4 sorties/day/aircraft and flew about 7000 total sorties against Egypt alone. Approximately 5000 of these being ground attack missions. Overall, the IAF would fly about 500 sorties per day for a total of 11,233 in the war; this is nearly twice the number of sorties the EAF would execute.⁵²

Possibly the most important tactical development of the period was the commitment by both Egyptian and Soviet authorities to modern air defenses. By the start of 1973, in addition to deploying menacing barrage balloons over key sites, Egypt had imported over 200 SA-3 launchers and 1200 missiles; these numbers do not consider a substantial number of SA-3 batteries already in Egypt under Soviet control. The SA-3 provided a new challenge to the IAF due to its low-level capabilities and the relative unfamiliarity that both Israel and the US had with the system. The weapon had not been deployed to Vietnam in any significant capacity and hence US defensive measures had been focused on countering the latest SA-2 systems. Egypt also imported over 50 of the very latest SA-6 launchers and over 500 missiles; against these weapons, Israel had virtually no electronic countermeasures. In addition, by 1973 Egypt had imported over 1600 shoulder-launched SA-7 tactical SAMs. While these weapons were not as lethal as their larger cousins, they proved to be constant threat to low flying aircraft near the Canal.



In 1973, the Egyptian AAA and SAM network was the most dense air defense system ever deployed in the world; without question, the Egyptian SAM force changed the air battle. Some estimates credit SAMs with over 40 IAF kills for about 2100 missiles fired.

⁴⁸ Kenneth M Pollack, *Arabs at War*, Lincoln: University of Nebraska Press, 2002, p.98.

⁴⁹ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.76.

⁵⁰ Nordeen, *Air Warfare in the Missile Age*, p.126.

⁵¹ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.90.

⁵² Nordeen, *Air Warfare in the Missile Age*, p.141 and p.146.

Foreshadowing the capabilities of even more deadly air defenses, the SA-6 was much more effective, it achieved a kill for every 55 missiles fired.⁵³ The Israelis thus faced much more than the older SA-2s they had encountered in 1967 and in the Attrition War.⁵⁴ In fact, the IAF faced an Egyptian force of approximately 150 SAM batteries, with over 60 deployed near the Suez Canal.⁵⁵

SUMMARY OF THE CAMPAIGN

The initial Egyptian assault across the Suez Canal on the afternoon of 6 Oct 1973 went off magnificently and nearly exactly as planned. In the early hours of the assault, twenty pontoon bridges were built over canal.⁵⁶ As expected by the Egyptian High Command, Israel attempted a major armored counter-attack against the Egyptian bridgehead on 8 October; it was a bloody failure as Egyptian infantry held fast and used new portable anti-tank weapons to great effect.

As battles on land and in the air raged, IAF efforts to support beleaguered ground forces were relatively uncoordinated. The IAF had no central ground-attack focused command and control center to control and analyze the air-ground battle. It is ironic however since the IAF had developed a very capable command and control system for the battle for air superiority.⁵⁷

The first three days of the Yom Kippur air war saw huge losses on both sides. In this period, the EAF lost approximately 113 aircraft, the Syrian Air Force 149 aircraft, the Iraqi Air Force 21 aircraft and, most remarkably considering past wars, the Israeli Air Force lost approximately 50 aircraft. The IAF total losses were nearly all front-line fighters or fighter-bombers; nearly 20% of the IAF strike force.⁵⁸



By 10 October, Egyptian forces had achieved all their goals on the east bank of the Suez Canal and then paused between 10-14 Oct to consolidate their positions. Also on 10 October, the Soviets began airlifting supplies, missiles, and hardware to Egypt including Armored Fighting Vehicles and even T-62 tanks. At this time, Syria was under intense pressure having first failing to defeat the Israeli army, then

being compelled to retreat from the Golan Heights and beyond. With Israeli artillery in range of Damascus, a large airlift of Soviet supplies to Syria commenced. Soon both Soviet and Syrian calls for Egypt to go on the offensive were heard in Cairo.

By the end of the first week of war, aircraft losses continued to be heavy on all sides. Western sources reported that Egypt had lost 49 MiG-21s, numerous MiG-17 and SU-7s, and several helicopters. Reports indicated that Israel had lost 14 F-4Es, 29 A-4s, 4 Super Mystere and 28 other aircraft.⁵⁹

On 14 October, against the wishes of his military staff and bowing to pressure from his fellow Arabs and the USSR, President Sadaat ordered Egyptian forces to initiate an offensive to the east in an effort to relieve the crisis on the Syrian front. An assault was launched to seize key passes in Sinai; this resulted in the largest tank battle since WWII with Egypt deploying over 1000 tanks and Israel over 800. The offensive was stopped by determined Israeli defenses, resulting in the loss of over Egyptian 250 tanks. Also on this day, partially in response to the Soviet support of Syria and partially to re-assure Israel, the US began a massive airlift of supplies to Israeli air bases, with some supplies flying as close to the front as el-Arish in the northeast Sinai. This resupply totaled over 44,000 tons before the end of the war; and included 80 A-4s, and 48 F-4s (though most arrived at the very end of the conflict).⁶⁰

Super-power tensions were also building; these being initiated as early as 8 October when the Soviet High Command put seven Soviet Airborne Divisions on alert for Middle East duty. By 14 October, the US was giving Israel assurances that should the Soviets get directly involved the US would provide direct assistance; to back this up the US moved several Mediterranean fleet units.⁶¹ Soviet involvement reached its apex on 15 October when its re-supply efforts delivered over 550 tons of supplies.

On 16 October, Israeli forces managed to cross the Suez Canal in strength, utilizing a thin corridor in the Egyptian lines. This move was met by stiff Egyptian air attacks and ground resistance. Israeli forces fanned out behind the lines with small tank forces sometimes hunting for SAM batteries to destroy. Interestingly, also on this date, East Germans began flying Combat Air Patrol missions; apparently East German Col. Otto Abel flew at least 10 of them. North Korean pilots were also reported to be flying in support of Egypt.⁶²

By 20 October both super-powers were ready to mandate a cease-fire; the Soviets concerned that their Arab allies should not be wholly defeated and the US trying to preserve its support for Israel without

⁵³ Nordeen, *Air Warfare in the Missile Age*, p.143.

⁵⁴ Pollack, *Arabs at War*, p.96.

⁵⁵ Lon Nordeen, *Fighters Over Israel*, p.123.

⁵⁶ Mersky, *Israeli Fighter Aces*, p.95.

⁵⁷ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.92.

⁵⁸ Mersky, *Israeli Fighter Aces*, p.95.

⁵⁹ Nordeen, *Air Warfare in the Missile Age*, p.135-136.

⁶⁰ Nordeen, *Air Warfare in the Missile Age*, p.136 and p.142.

⁶¹ Pollack, *Arabs at War*, p.102 and p.104.

⁶² Nicolle & Cooper, *Arab MiG-19 and MiG-21 Units in Combat*, p.38 and p.44.

destroying its fragile political relationship with the Arab oil producing countries. On this day, Soviet leader Breshnev sent a note to Sadaat pledging to guarantee a cease-fire even if it meant unilateral moves by the Soviet Union. The Soviets had become concerned that any overwhelming Israeli victory could lead to the downfall of Sadaat's government, one which they had invested heavily in.⁶³ A cease fire was finally announced on 23 October but it was quickly broken by Israeli forces driving hard to finish the encirclement of the Egyptian 3rd Army which was still on the east side of the canal. By 24 October, Israeli forces had finally encircled the 3rd Army and a second, successful, cease fire started at 5pm.

In contrast to the 1967 War, Egyptian aircraft were constantly engaged in the air war throughout the campaign. For example, over 2500 sorties were flown by the EAF between 16 and 22 October (37% of total sorties) alone. In this period, the EAF fought 18 separate air-to-air engagements with the IAF. In addition, there was a remarkable difference in aircraft destroyed on the ground between the 1967 and 1973 Wars. Very few EAF aircraft were destroyed on the ground due to the extensive protective and dispersal methods used prior to the war. Flying roughly the same number of counter-airbase sorties in both wars (490 in 1967 and about 468 in 1973) the Israeli Air Force destroyed roughly 370 aircraft in 1967 but only managed to destroy approximately 22 aircraft on the ground in 1973.⁶⁴

Over 18 days of warfare, losses to the EAF and IAF were extensive, though no exact statistics can be derived from existing sources. Israeli sources state that from 334-451 total Arab aircraft were destroyed in the war while Egyptian sources state that total Egyptian losses were 242 aircraft. As always, Israeli loss statistics are cryptic but one Israeli official stated that 115 aircraft were lost and 236 damaged. These numbers include 33 F-4, 52 A-4 and 6 Super Mystere destroyed in the war.⁶⁵



⁶³ Pollack, *Arabs at War*, p.104.

⁶⁴ Cordesman & Wagner, *Lessons of Modern War*, Vol. 1, p.96.

⁶⁵ Nordeen, *Air Warfare in the Missile Age*, p.145-146.

Color Schemes

By Rob Wubbenhorst

The period of 1967-1973 saw many changes in the markings of the combatants over the Sinai, namely the Israeli Air Force and several incarnations on the Egyptian Air Forces (United Arab Republic Air Force and Egyptian Air Force). Evolution of the paint-schemes and national markings were instigated by political and tactical causes.

Israeli Air Force

PAINT SCHEMES

In the mid 1950s, the IAF began a policy to retain the natural metal finish for front-line aircraft. All other types would carry a Blue and Brown camouflage scheme on upper surfaces, and Light Gray bottom facing surfaces. FS codes that approximate these colors are FS 35053 Blue, FS 31433 Brown, FS 37722 Grey.⁶⁶ In 1967 through the end of the Six-Day War, only the *Mirage IIIC* retained a natural metal finish. All other types wore the Blue and Brown camouflage, but this scheme was not carried for long after the conflict.

Immediately after the Six-Day War, the IAF developed a new three-tone 'desert' camouflage based on their combat experience over the Sinai desert. Upper surfaces would now be a disruptive pattern of Tan FS 30219 and Light Green FS 34227 over Sand FS 33531 and undersurfaces in Light Blue FS 35622. The *Mirages* were the last of the natural metal jets and received their new paint when the F-4E *Phantoms* (*Kurnass* or *Sledgehammer* in Hebrew) arrived in September 1969.⁶⁷ Helicopters were typically either painted in the same Blue and Brown uppersides, and Light Grey undersides (Sikorsky types and French supplied *Super Frelon*), or Olive Green overall, possibly with IAF Brown disruptive scheme locally applied.⁶⁸

Nose cones are typically black, with the *Mirage* in red trim marks originating from maker Dassault with squadron customizations (101 Squadron rudder striping, 117 Squadron fuselage stripe, and 119 Squadron tail chevron).

During the Yom Kippur War, the IAF received much needed F-4E reinforcements from the USAF. These were received in USAF camouflage of Forest Green FS 34079, Dark Green FS 34102, and Tan FS 30219 upper-surfaces, with Light Grey FS 36622 undersurfaces. These aircraft were all repainted soon after the war in standard IAF desert camouflage.

69 'The Hammers' Squadron	101 'The First Fighter' Squadron	102 'The Flying Tiger' Squadron	105 'The Scorpion' Squadron	107 'The Knights of the Orange Tail' Squadron
113 'Hornet' Squadron	115 'Flying Dragon' Squadron	144 'The Guards of the Arava' Squadron	119 'Bar' Squadron	201 'The One' Squadron

⁶⁶ Yofe, Alex, *Spitfire Mk.IX in the Israeli Air Force Service*, p. 128

⁶⁷ Ray Ball, *The Israeli Air Force 1947-1967 Camouflage & Markings Scale Aircraft Monographs No 3*, p. 2-3.

⁶⁸ Ball, No 3, p. 82.

NUMBERING

- Dassault *Mirage IIIC* aircraft received two digit serial numbers between 1-80. There was never a number 13 aircraft, possibly due to superstition.⁶⁹
- *F-4E Phantom* aircraft received three digit serial numbers on the tail in this series:⁷⁰ 017, 101-2, 104, 106, 108, 111-114, 119, 127, 143-144, 148-148, 150-151, 158, 165, 168-169, 171-172, 183, 186-187, 189, 202-204, 208-210, 216, 218, 222-223, 225, 228, 230, 238, 250, 259, 260, 263, 266, 270, 274, 277, 281, 297, 304-306, 309, 311-313, 316-317, 319, 322-323, 327, 333-334, 610, 615.
- *RF-4E Phantom* reconnaissance aircraft serials were 485-499.
- *Mirage* and *Phantom* serial numbers are displayed in black and are located on both sides of the tail forward of the rudder.
- Serial numbers were applied over the Blue and Brown camouflage scheme are typically are in white and under the canopy on both sides of the fuselage (*Ouragans*, *Vautours*, *Mysteres*, *Super Mysteres*).

SQUADRON MARKINGS

IAF Squadron Badge markings are quite distinctive and are significant icons of squadron heritage.⁷¹ Placement of squadron badges on tactical aircraft was on the vertical tail surfaces. The image can be reversed if the graphic has a 'front' side.

The first two *F-4E* squadrons (*One* and *Hammers*) adopted colorful rudders in the mid-1970s but these were not in use during the October war in 1973.⁷² The fourth *F-4E* squadron's *Knights of the Orange Tail* rudder was painted International Orange FS 12197 in September 1973.⁷³ Helicopters typically displayed badges under the nose canopy on the left side and on the tail boom for the right side.⁷⁴

National Markings consist of the 6-pointed star in a white circle (Shield of David or in Hebrew *Magen David*), typically of a size matching the foreign roundel of the aircraft's manufacturer (French or American). Insignia on fixed wing aircraft are typical in six positions (port & starboard fuselage, port & starboard wings top & bottom). Helicopters typically were marked in two positions (port & starboard fuselage) and sometimes a third on the nose (S-55). These national insignia were White FS 17925 White and Insignia Blue FS 35090.

On 14 October 1973, an IAF *Nesher* engaged a Libyan *Mirage 5* over the Sinai on the 8th day of the Yom Kippur War. As a result, Recognition Triangles were painted on all *Mirages* and *Neshers* to prevent blue-on-blue incidents. The triangles were on the wingtips and tail in Yellow FS 33538 with a black border.⁷⁵ *Super Mysteres* also received the recognition triangles to distinguish them from *MiG-17s*.⁷⁶

⁶⁹ Ball, No 3, p. 92.

⁷⁰ <http://idfaf.110mb.com/Phantom/PhantomMain.html>

⁷¹ Public Domain imagery obtained from http://en.wikipedia.org/wiki/Israeli_Air_Force

⁷² Ball, No. 4, p. 16.

⁷³ Ball, No. 4, p. 24.

⁷⁴ Ball, No 4, p. 6.

⁷⁵ Ball, No 4, p. 27.

⁷⁶ Ball, No 4, p. 36.

Egyptian Air Force

In 1961, Syria seceded from the United Arab Republic (UAR) leaving Egypt as the sole member. As a result, in 1967 the Egyptian Air Force was known as the UARAF. During 1968, Egypt resumed the EAF service name and changed their insignia as a result.

PAINT SCHEMES

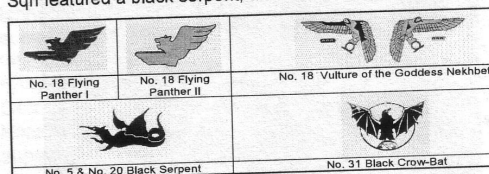
All Egyptian combat aircraft in 1967 were natural metal finish. Immediately after the Six-Day War in mid-June 1967, the UARAF, in a similar decision to the IAF, adopted a local camouflage scheme known as "Sand and Spinach". This camouflage, developed to blend into the Nile Delta terrain, was initially applied at local squadron level using whatever paint was available, including automobile paint. A variant to the typical broad Black Green bands of Sand and Spinach camouflage is a narrower band style known as "Tiger Stripe". Colors for both variations were approximate to Black Green FS 34050 and Tan FS 20400 with an undersurface of Blue Grey FS 25526. "Nile Valley" is another variation to Sand & Spinach which added Grey FS 36251 outlining for squadrons based outside the fertile delta. The EAF was anything but consistent in camouflage application.

NUMBERING

Egyptian aircraft are numbered in Arabic numbers in black under the canopy on both sides of the fuselage. Typical serials are four digits. *Il-28* serials: 1714, 1733, 1801. *MiG-17s*: 2000 series, *MiG-19s*: 2000 & 3000 series. *MiG-21s*: 5000 & 8000 series. *Su-7s* serials: 3171, 7649, 7664, 7689, 7904.

SQUADRON MARKINGS

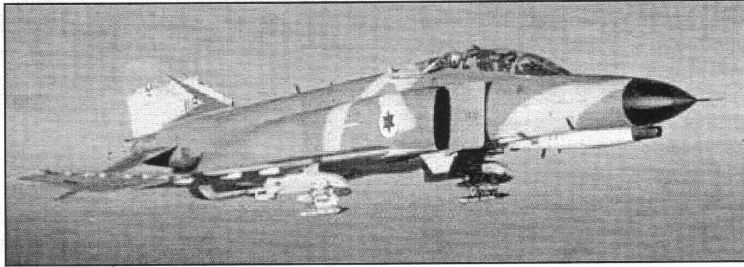
Egyptian aircraft in 1967 featured identification stripes located on the rear fuselage and wingtips. These stripes are typically narrow bands of black, green, or red with the middle band x2-x3 times the width of the outer bands. Wingtip stripes are typical only on *MiG-17s* and *-19s*, outboard of the national roundel. Fuselage stripes are aft of the national roundel and found on all *MiG* types and *Sukhoi* attack aircraft, in front of the airbrake. These identification stripes were dropped when the camouflage patterns were applied in mid-June 1967. Several unique markings on *MiG-17s* are attributable to Wing Cdr. Tahsin Zaki. No. 18 Squadron featured a *flying panther* in red or yellow on the fuselage forward of the serial, red wing-tips in addition to the black recognition stripes and red trim around the engine intake. Several No. 18 Squadron *MiGs* had red & white checker pattern on the rudder much like their Jordanian allies. Another unique marking, *Vulture of the Goddess Nekhbet*, was on the rudders of a few *MiG-17s* of No. 18 Sqn. No. 20 Sqn featured a black serpent, and No. 31 a black crow-bat.⁷⁷



UARAF roundels had 2 green stars in the white band and are typical in six positions (port & starboard fuselage, port & starboard wings top & bottom). A fin flash on the tail also featured the 2 green stars in the white bar of the UAR flag. After 1971, the updated EAF markings deleted the stars in the roundel and fin flash, substituting the coat of arms for Egypt (the Eagle of Saladin) on the fin flash white bar.

⁷⁷ Tom Cooper and David Nicolle, *Arab MiGs Volume 1*, p. 228-9, 233, 235.

Campaign Aircraft



Data Note: For play balance, players should use the data presented here to play the scenarios in this book.

Star and Pyramid Aircraft Statistics

Aircraft	Year	Performance			Robust- Ness [Rob] / Defense Systems [DefSys]	Weapons	Radar [RAD], Radar Warning Receiver [RWR], and ECM [ECM]	Notes
		Turn [TRN], Speed [SP] Agility [AG] Accel [LV/H]	Climb/ Dive [CL/DV]	After- Burner [AB]				
ISRAEL								
Ouragan	1952	B6 +2	79/65	none	R1 / d6	FF: 4x MC		
SMB.2 Super Mystere	1958	B7 +2	180/S-	A□3	R2 / d6	@FF: 2x LRHC, 2x IRM		
Mirage IIICJ Shahak (6-Day War)	1963	C8 +2 Lx	164/S	A□4	R2 / d6	FF: 2x LRHC, 2x IR, 1x RHM	R: d6 - 60	
Mirage IIICJ Shahak (other)	1970	C8 +2 Lx	164/S	A□4	R2 / d8	FF: 2x LRHC, 2x IR, 1x RHM	RWR	
F-4E Kurnass	1969**	*SpD8 +2	350/S+	A□4	R2 / d8	@FF: 1x Rotary Can, 4x IRM, 4x RHM	R: d10 - 160, RWR	ECM Pod - see scenario * May use Turn & Maneuver Chart C - see scenario
Nesher	1971	D8 +2	140/S	A□4	R2 / d8	FF: 2x LRHC, 2x IRM	RWR	Typical "Medium" bomb-load
A-4H Skyhawk	Apr68	B7 +3	84/65	none	R2 / d8	FF: 2x LRHC	RWR	Typical "Medium" bomb-load
A-4N Skyhawk	Jun72	B7 +3	91/70	none	R2 / d8	FF: 2x LRHC	RWR	Typical "Medium" bomb-load
S-58	1954	H2 +0	12/18	none	R2 / d6	none	none	Helicopter
UH-1 "Huey"	1965	H2 +1	16/20	none	R2 / d6	SL: 1x LMG, SR: 1x LMG	none	Helicopter
Piper Super Cub	1949	H — special* +2	*special	none	R0 / d6	none	none	Observation Aircraft
* The Piper Super Cub must always move: 1 hex per turn, stay at TAL 1 SURFACE LOW CAB, and move first. The Piper Cub uses the Helicopter Move Chart and may execute any Speed 1 Turn Code other than the extreme turn codes (may not execute HB, LET or RET turn codes); when making these moves, ignore speed loss.								
** Delivered to Israel								
EGYPT and SOVIET								
IL-14	1950	P*C3 +0	13/26	none	R3 / d6	none	none	Transport aircraft
MiG-17F "Fresco-C"	1953	SpA7 +2(- -)	128/75	A□3	R2 / d6	FF: 2x MC, 1x LVHC (L,ROF)		
MiG-19S "Farmer-C"	1956	B8 +2(-)	226/S	A□2	R2 / d6	FF: 3x LRHC, (optional) 2x IRM	RWR	Make OOC if ending move at speed 1 after extreme turn in HIGH CAB or above
MiG-21F-13 "Fishbed-C"	1961	B8 +2(-)	237/S	A□3	R1 / d6	FF: 1x LRHC, 2x IRM	RWR	PVA
MiG-21PFM "Fishbed-F"	1966	B8 +2(-)	260/S+	A□3	R1 / d6	2x IRM	R: d6 - 40, RWR	PVA
MiG-21PFM "Fishbed-F"	Jul67	B8 +2(-)	260/S+	A□3	R1 / d6	FF: 2x MC, 2x IRM	R: d6 - 40, RWR	PVA
MiG-21MF "Fishbed-J"	1970	B8 +2(-)	245/S+	A□3	R1 / d8	FF: 2x MC, 4x IRM	R: d8 - 120, RWR	PVA
Su-7B "Fitter-A"	1961	D7 +2(-)	295/S	A□2	R2 / d6	FF: 2x LRHC	RWR	Typical "Medium" bomb-load
IL-28 "Beagle"	1950	C6 +1(-) Lx	26/62	none	R2 / d6	BFF: 2x MC, R: 2x MC		Typical "Medium" bomb-load

Campaign and Scenario Rules

Victory Points (VPs)

The Victory Point rules below *have been customized for this Campaign Book* and differ from those in the **CY6 JET AGE** rulebook. Players must use these Victory Point Rules rather than those in the **CY6 JET AGE** rulebook no matter if playing a campaign or just a stand-alone scenario.

Victory points are accumulated in three ways: Basic Victory Points, Board Exit Victory Points, and Special Order Accomplishment Victory Points. The side with the highest total of all types of victory points is the winner.

As Victory Points are earned in each scenario, each side should keep a record of these points on their Campaign Victory Point Record Sheet (VPR). The side with the most Victory Points at the end of a scenario is the winner.

BASIC VICTORY POINTS

Basic Victory Points can be accumulated by damaging and destroying aircraft and for shooting down Skilled, Veteran and Ace aircrews. The Basic Victory Points (VP) awarded for each action is listed on the table below (example-the Israeli player receives 8 VP for destroying an Egyptian IL-28 Bomber):

Type	Aircraft Damaged & Returns	Aircraft Destroyed, Crew Returns		AC Destroyed, Crew Captured/Wound/KIA	
		Israeli	Egyptian / Soviet	Israeli	Egyptian / Soviet
Other Aircraft	1	2	1 / 2	4	2 / 3
Mirage III, F-4E, Neshar, A-4	1	3		5	
IL-28 Bomber	2		4		6
Capture/KIA Skilled (+1) Crew				+1	+2
Capture/KIA Veteran (+2) Crew				+3	+6
Capture/KIA Ace (+3) Crew				+6	+8

VICTORY POINTS FOR BOARD EXIT

Whenever an aircraft (damaged or undamaged) exits the board via a Friendly Board Edge it may automatically safely return to base. Whenever an aircraft exits via a **Neutral** or **Unfriendly** board edge it must make a Crew Check (see **CY6 JET AGE** Rules) while applying some additional modifiers to determine its ultimate fate:

- If the aircraft is exiting a "Neutral" board edge it must minus one (-1) from the die roll.

- If exiting from an "Unfriendly" board edge it must minus two (-2) from the die roll.
- Aircraft that are damaged must apply an *additional* minus one (-1) modifier.
- If the Crew Check succeeds, the aircraft safely returns to base.
- Aircraft that do not pass their Crew Check when exiting the board are considered damaged. If the exiting aircraft was already damaged it is considered destroyed.
- If the aircraft fails its check by four or more it is considered destroyed.

VICTORY POINTS FOR ACCOMPLISHING SPECIAL ORDERS

A scenario may list a specific number of victory points for accomplishing certain orders (such as destroying a bridge or factory, exiting bombers, etc). If the orders are accomplished, add these victory points to the friendly VP total. In this book, Special Orders Victory Points will most often be awarded for exiting aircraft off a certain board edge (allowing them to continue the mission or make it home), damaging/destroying ground targets, or shooting down notable crew(s).

AIRCREW SURVIVAL

When an aircraft is destroyed, players must roll for aircrew survival. Note that this roll is critical

to victory determination in this book and is not an optional rule. First, roll for *Aircrew Condition* to determine if the aircrew bailed out successfully. Second, roll *Aircrew Capture or Return* to determine if the aircrew was captured or returned to friendly territory.

Aircrew Condition

If an aircraft is destroyed, roll to see if the crew has successfully bailed-out or if they are seriously wounded/killed; repeat the fatal attack on the destroyed aircraft using the same

attacking firepower column and robustness as before. If an aircraft was destroyed after exiting a neutral or unfriendly board edge it must also roll a Crew Check to determine aircrew condition.

- If the roll *succeeds* the aircrew bails-out successfully.
- If the roll *fails*, the crew is killed or seriously wounded (same as KIA for game purposes).

Egyptian/Soviet Bail-Out

All Egyptian crews that successfully bail-out over *Egypt* automatically return to base and *do not* have to make the Aircrew Capture or Return roll. Soviet crews that bail out over *Egypt* must roll 2d6; on a roll of "2" the crew is killed by angry bedouins who mistake them for Israelis, on any other roll the crew automatically returns. Any Egyptian/Soviet crews that bail out over *Israel*, *Israeli Territory* or the *Mediterranean* are captured (Egypt had minimal SAR capabilities).

Israeli Aircrew Capture or Return

All Israeli crews that successfully bail-out over *Israel*, the *Mediterranean*, or *Israeli Territory* automatically return to base and *do not* have to make the Aircrew Capture or Return roll. Israeli crews that successfully bail out over *Egypt* take a Crew Check to determine if the crew returns to base or is captured. Apply the following die roll modifiers:

Location (one of the below)

- 1 Aircraft was destroyed after exiting an unfriendly board edge.
- 3 Aircraft was destroyed over *Egypt*.

If the Aircrew Check is passed, the crew escapes and returns home. If the Aircrew Check fails, the crew is captured. Note that aircrews from aircraft that are destroyed after exiting a neutral or unfriendly board edge must also check for capture or return.



Campaign Rules

The **STAR AND PYRAMID Campaign System** allows Israeli and Egyptian players to compete over the course of several scenarios to see which side (Israeli or Egyptian) will achieve more victory points.

The scenarios in this book are divided into specific Campaigns made up of scenario groups that are designed to be played together. Players may choose to play all or a subset of the Campaigns. While it is not necessary to play every scenario in a given Campaign, players choosing a subset of the scenarios to play should be aware that the scenarios are not necessarily individually balanced but rather are balanced against the other scenarios of the Campaign as a whole. Each player chooses to be Israeli or Egyptian at the start of the campaign and should play this side for the duration of the campaign.

MARGINAL CAMPAIGN VICTORY

Each side will record victory points for destroying or damaging enemy aircraft, capturing crews, and for accomplishing special orders for each scenario. Each side will keep a record of victory points over the course of all the scenarios played and the side with the greatest number after all the scenarios are completed has won a Marginal Campaign Victory.

DECISIVE CAMPAIGN VICTORY

If the side that won a Marginal Campaign Victory (see above) also wins the majority of the scenarios played that side has won a Decisive Campaign Victory.

SPECIAL CAMPAIGN EVENTS

At the end of each scenario, the side with the higher number of Victory Points for that scenario may roll once on the appropriate (Israeli or Egyptian) Special Campaign Events (SCE) Table. In addition, the losing side in any scenario may pay 10 Victory Points and also roll once on their table. SCE rolls are made immediately at the end of the scenario in which they are earned/purchased.

Roll a d10 and consult the appropriate SCE table to determine what Special Campaign Event they have been awarded. Campaign events may be immediately cashed-in for their victory points equivalent (as listed in the SCE table in the "Cash-in VPs" column) **-OR-** may be kept for future play. Campaign Events may only

be cashed-in for their full Cash-In VPs at the time of award. Any Campaign Events that are not used by the end of the last scenario in the campaign may be cashed-in for 1 Victory Point each.

Special Campaign Events that are kept (rather than cashed-in) may be activated in any following scenario at any time (even during the middle of play); they may be saved from scenario to scenario until used, but may be used only once and are then no longer active. For simplicity sake, players may wish to make up cards associated with each Campaign Event to keep track of which events players have kept from scenario to scenario.

When playing individual scenarios, not in the context of a campaign, players should agree before play if **Special Campaign Events** will be used or not. If they are used, then after the game they are automatically traded for their Victory Point value.

THE "GRAND" CAMPAIGN

It is possible to play all of the scenarios in this book in one large campaign. Players total Victory Points at the end of each Campaign to determine the winner of that Campaign. The side that wins three of the five Campaigns is the winner.

AMBUSHING THE BEAR

Due to the strategic importance of the USSR-Israel confrontation in 1970, the winner of the scenario **Ambushing the Bear** may roll twice on the Special Campaign Events Table.

Other Special Rules

The rules below are additional special rules for use in this book.

NATIONAL MOVE ORDER

The National Move Order is as follows (with first listed moving first): Egypt, Soviet (USSR), Israel.

AIRCREW SKILL CHANGES

Any aircrew that increases or decreases in skill during a campaign (through Lucky Hit result or Special Campaign Event) must use the new skill for Victory Point purposes.

DAMAGED AIRCRAFT

When any aircraft receives *engine damage* it must abort the mission, jettison all weapons other than air-to-air missiles and attempt to exit the board via a friendly board edge.

GROUND ATTACK METHODS

All ground attack methods (bombing, rocket fire or strafing) can be used to score hits, unless a specific method is noted in the scenario. For example, "The Egyptian player is awarded an additional +1 VP for each bomb hit on the Convoy" means *only* bomb hits count for VPs.

AIR-TO-AIR MISSILE FIRE

Aircraft may only fire a maximum of two air-to-air missiles at a single target per turn; these must be of the same type.

TERRAIN AND AAA

The terrain in this scenario book is not rough and uneven and therefore AAA may fire out to maximum range at targets flying at TAL 1 SURFACE LOW CAB unless blocked by a hill.

BARRAGE BALLOONS

Barrage balloons in the game actually represent clusters of teathered balloons; they cannot be shot down and do not interfere with spotting.

AIRCRAFT & MISSILE SPECIFIC RULES

The following rules apply to specific aircraft.

Mirage IIICJ

- Radar may not detect or lock-on to lower targets; after the start of 1970 no radar at all.
- Is not equipped with an Advanced Gun Sight.
- Drop tanks may not be released if flying at speed 5 or greater.

F-4E

- Checks to visually spot F-4Es receive a plus one (+1) die modifier due to prominent engine smoke trail.

MiG-21PFM (export name, MiG-21FL)

- No guns in 1966 or 1967. By late 1967 nearly all are fitted with twin 23mm gun pods (FF: 2x MC); these weapons do not receive the minus one (-1) External Gun Pod die roll modifier.

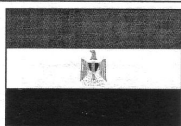
Egyptian/Soviet Drop Tanks

- Drop tanks may not be released if flying at speed 6 or greater.

Shafir 1 IRM

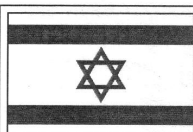
Use the following statistics for the **Shafir 1** Infra-red Homing Missile (IRM). Note that this missile historically had a very poor reputation, reliability, and hit-rate.

MISSILE TYPE	MISSILE BASE TO HIT & RANGES (MIN - MAX)			MAL- FUNCTION d10	Dmg Dice d10	NOTES
	REAR TARGET	SIDE TARGET	FRONT TARGET			
Shafir 1	7+ 3 - 10	No	No	1-4	3 / 5	No launch after Ext. Turn, any Split-S or Immelman, *8+ if shooting lower target in SURF. LOW CAB



EGYPT SPECIAL CAMPAIGN EVENTS TABLE

Die Roll	Cash-In VPs	Event
10	6 VP	Spirit of the Pyramids – May be used to void any enemy Special Campaign Event.
9	5 VP	Revolutionary Determination – For this scenario the Egyptian player always moves second within every move group regardless of sun position, altitude or National Move Order.
8	5 VP	Propaganda Coup – The Egyptian player receives triple VP for the next Israeli <i>veteran</i> (+2) or <i>ace</i> (+3) crew that is captured.
7	4 VP	Luck of the Pharaohs – The Egyptian player may choose which Variable Rule to be used for the Egyptian side in a subsequent scenario.
6	4 VP	Fuel Hit – The next enemy aircraft to receive engine damage is destroyed. Roll normally for crew survival and capture/return.
5	3 VP	Expert Soviet SAM Crew – Any one SAM battery may increase its crew skill one level for the entire scenario (this is only revealed at the time of first fire from the selected battery).
4	3 VP	Inspired Crew – Immediately increase, by one level and for the remainder of the scenario, the crew skill level of an Egyptian crew that destroys an enemy aircraft; it may not increase beyond <i>ace</i> (+3).
3	2 VP	Klimov! – Void any one Engine Damage hit; announced at the time of the result.
2	2 VP	Soviet-built Firepower – For any one roll by an enemy crew on the robustness table, reduce the robustness of the target aircraft by one level (example: R2 becomes R1)
1	2 VP	Not so Lucky After All – May be used to void any one lucky hit in a scenario.



ISRAEL SPECIAL CAMPAIGN EVENTS TABLE

Die Roll	Cash-In VPs	Event
10	6 VP	Zionist Spirit – May be used to void any enemy Special Campaign Event.
9	5 VP	Bomber Crew Experience – may be used to automatically obtain <u>two hits</u> on a ground target.
8	4 VP	Mazel tov! – The Israeli player may choose which Variable Rule to be used for the Israeli side in a subsequent scenario.
7	4 VP	Perfect Bail Out and Return to Base – A selected crew may automatically survive the destruction of their aircraft and return to base.
6	3 VP	Engine Problems – Prior to the start of the scenario but after set-up, announce that one Egyptian aircraft with a <i>green</i> (+0) or <i>skilled</i> (+1) crew has engine problems and has aborted the mission. The Egyptian player then randomly selects one such aircraft; it is immediately removed from the scenario and automatically returns to base safely.
5	3 VP	Inspired Crew – Immediately increase, by one level and for the remainder of the scenario, the crew skill level of an Israeli crew that destroys an enemy aircraft; it may not increase beyond <i>ace</i> (+3).
4	3 VP	Israeli SAM Countermeasures – Any one SAM battery automatically misses for the entire scenario (this is only revealed at the time of the first hit from the selected battery).
3	2 VP	Eagle Eye – At anytime in the scenario, the Egyptian player must reveal all hidden aircraft, targets, SAMs and AAA batteries.
2	2 VP	High Speed Instability – When any one MiG-17 ends a move at speed 7, announce that it is out of control. The MiG is then placed OOC; this occurs <u>before</u> the firing phase.
1	2 VP	Not so Lucky After All – May be used to void any one lucky hit in a scenario.

CAMPAIGN VICTORY POINT RECORD SHEET

SCENARIO 1 name:	
VICTORY POINTS	
SCENARIO 2 name:	
VICTORY POINTS	
SCENARIO 3 name:	
VICTORY POINTS	
SCENARIO 4 name:	
VICTORY POINTS	
SCENARIO 5 name:	
VICTORY POINTS	
SCENARIO 6 name:	
VICTORY POINTS	
SCENARIO 7 name:	
VICTORY POINTS	
TOTAL VP	

Scenario Format

This book covers a period of years from approximately 1966-1973. The scenarios are presented in chronological order and are grouped into five campaigns. They have been carefully chosen to reflect the nature of the air war during the Arab-Israeli Air War.

Scenario Format

Each scenario has rules and details that govern set-up and play of the game. These pages include the following sections:

SETTING: sets the context of the scenario.

- **Date, Location and History** provide historical information and background to the battle.
- **Conditions** lists the base spotting distance and sun board edge (if any).
- **CAB** lists the *active* Combat Altitude Band(s) that are in play for the scenario.
- **Clouds** lists the type and quantity of table clouds and any cloud borders.
- **Orders** lists the objectives for both sides and any associated additional victory points for accomplishing those orders.
- **Game Length** notes any limit on game turns for the scenario.

SCENARIO RULES: this section details specific conditions and instructions for that scenario; often it is used to introduce unique historical circumstances. The rules presented in this section may supersede rules in the **CY6 JET AGE** rulebook.

SPECIAL CAMPAIGN RULES: specific rules that enable players to roll on the Special Campaign Events (SCE) table.

SCENARIO SETUP: shows a map of the game board and any notable locations. Also included are:

- **Board Edges** that are friendly to each side and those which are neutral.
- **Setup Areas** on the board for ground or air targets.

FORCES: these sections detail the following:

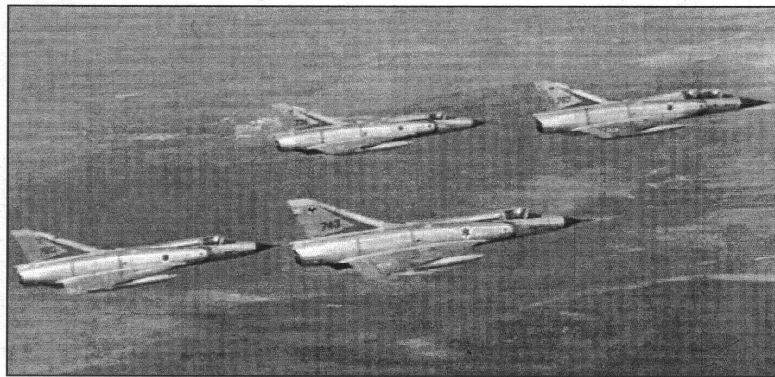
- **Base Forces** for each side and the units engaged, along with deployment instructions and pilot/crew ratings.
- **Variable Rules** are changes to the base force or the scenario rules. These are chosen randomly by rolling a d10 and consulting the table. After rolling the d10, the player may modify the die roll by spending Campaign Points he has accumulated in previous scenarios. The d10 result may be modified by 1 for each CP spent.

Game Surface

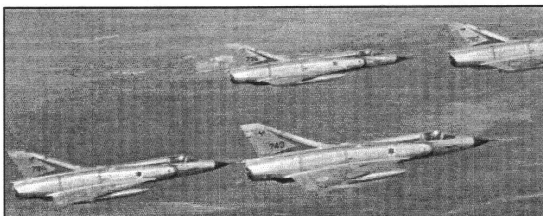
Players should use a game surface approximately 30x45 hexes, divided into six boxes, each of 15x15 hexes (though many of the scenarios will fit in a smaller area).

SIX-DAY WAR: OPERATION MOKED

Scenarios



Head to Head



SETTING

Date: 29 November 1966, 1100 hours.

Location: Over the Negev Desert, near the border, Israel.

History: On the anniversary of the Egyptian Revolution (23 July 1952) in 1963 the IAF attempted to demonstrate its superiority by overflying Egyptian territory. Within three years both the Israeli and Egyptian air forces were probing at the borders. New Egyptian MiG-19s, on their first combat sortie, were tasked with probing the Israeli border just east of Sinai and found a lone IAF Piper Cub. Soon after an urgent help call from the Cub, the MiGs were intercepted by alert-duty Mirages of 101 Squadron.

Conditions: *Visibility:* 16; *Sun:* Edge 5

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* The Egyptian player may place two 10-hex clouds, TAL 1-6 LOW CAB; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +2 VPs for each Egyptian crew captured (beyond Campaign VP rules).

Game Length: No limit.

SCENARIO RULES

1. The *veteran* (+2) **Mirage III** carries 1x R530. Roll a d6 for each of the other three **Mirage III**; on 1-2 it carries 1x R530, on 3 1x Shafrir 1, on 4-6 2x Shafrir 1. All also carry two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*.
2. **Mirage III** radar may not detect or lock-on to lower targets and they are *not* equipped with an Advanced Gun Sight.
3. The **MiG-19s** carry 2x AA-2.
4. There are two tall hills (as shown on the map) that block line-of-sight to any aircraft flying at TAL 1 in the SURFACE LOW CAB. Aircraft at TAL 1 SURFACE LOW CAB may fly over these hills with no threat of collision.
5. IR Missiles may not be fired at targets in clouds or at the Piper Super Cub.

EGYPTIAN AIR FORCE

Elements of 27/29 Squadron

1x MiG-19S w/ *veteran* (+2) crew

1x MiG-19S w/ *green* (+0) crew

(enter turn 1 from board edge 1 or 2, speed 5, TAL 6 LOW CAB)

2x MiG-19S w/ *green* (+0) crew

(enter turn 2 from board edge 1 or turn 4 from board edge 3, speed 5, TAL 6 LOW CAB)

VARIABLE RULES

- 1-4 **Inspired Pilot**
One random **MiG** aircrew fires guns at one skill level better but assumes ammunition depletion at one level worse.
- 5-6 **Inferior Maintenance**
One random **MiG** has no afterburner; another random **MiG** has one broken cannon.
- 7-8 **Poor Vectoring**
The two *green* (+0) **MiGs** must enter from the west board edge on turn four.
- 9-10 **Low Fuel**
The **MiG-19s** have one less Afterburner box.

SCENARIO RULES (continued)

6. See *Star and Pyramid Aircraft Statistics* for special rules for the Piper Super Cub aircraft.

7. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

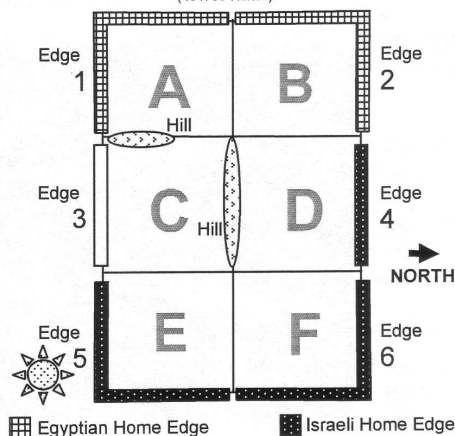
The engagement started with a successful long-range R530 shot from Mirage pilot Michael "Diamond" Haber. This would be the first long-range kill with the normally unreliable R530 missile in the Middle East. Upon closing on the enemy, Haber also destroyed one MiG-19 with cannon fire. Israel received limited quantities of the R530 and 101 and 117 Squadrons qualified on the missile in 1964. The Cub escaped.

CAMPAIGN NOTE

While this engagement was not directly part of the 1967 War, it has been included in this campaign to represent the numerous aerial battles that led up to the war and influenced its outcome.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 101 Squadron

Diamond Element

1x **Mirage IIICJ** w/ *veteran* (+2) crew (Michael "Diamond" Haber)

1x **Mirage IIICJ** w/ *green* (+0) crew

(enter turn 1 from board edge 6, speed 5, TAL 1 LOW CAB)

Trail Element

2x **Mirage IIICJ** w/ *skilled* (+1) crew

(enter turn 4 or 5 from board edge 4, speed 5, TAL 1 LOW CAB)

1x **Piper Super Cub** w/ *skilled* (+1) crew

(set up first in the middle of the board north or south of the center hill, speed 1, TAL 1 SURFACE LOW CAB)

VARIABLE RULES

- 1-3 **The Cub's the Limit**
Replace a *skilled* (+1) **Piper Cub** crew with a *veteran* (+2) crew.
- 4-6 **Delayed Entry**
The **Trail Element** must enter from board edge 6 on turn 5.
- 7-8 **Misjudged**
After the Egyptian player places the clouds, the Israeli player may move one of them up to 15 hexes.
- 9-10 **Low Fuel**
The **Mirage IIIs** have two fewer Afterburner boxes.

First Wave



SETTING

Date: 5 June 1967, 0845 hours (Cairo time).

Location: Over Kabrit Air Base, near the Canal, Egypt.

History: As planned, four Super Mysteres of 105 Squadron approached their first-strike target, Kabrit Air Base at about 0845. Leading the flight was Alexander Armon who had engaged EAF aircraft prior to the war; also in the flight was former 105 Squadron Commanding Officer, and multiple kill veteran, Yaakov Nevo. After the first Israeli bombs were released, EAF pilot Mustafa Hafez helped his squadron CO, Mamdouh Taliba, strap in for an intercept. He then began to search for an undamaged aircraft to fly.

Conditions: Visibility: 16; Sun: Edge 5

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: Mist, see Rules below; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +2 VPs if Yaakov Nevo is captured (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +1 VP for each strafing hit achieved on the **Airfield** (up to a total of 6 VPs) and is awarded an additional +6 VPs if the IL-14 is shot down (beyond Campaign VP rules).

Game Length: 12 turns.

SCENARIO RULES

1. The **Super Mysteres** are unloaded as they have just dropped their bombs but may use guns.
2. The **MiG-17s** are unloaded but may use guns.
3. The **MiG-21s** carry 2x AA-2 and have no guns.
4. Kabrit Airfield is placed just east of the intersection of areas C, D, E and F as shown on the map. Victory points may be scored by strafing attacks against the airfield.
5. The Egyptian player places three 10-hex Mist Banks, no more than one in each board area, each effecting TAL 1-3 SURFACE LOW CAB (similar to clouds). Any gunfire in or through these banks must take an additional minus-one (-1) to-hit penalty and IR Missiles may not be fired at targets in or through the banks.

EGYPTIAN AIR FORCE

Elements of 31 Squadron and 5th Air Brigade

Commander's Element (31 Squadron)

1x MiG-17F w/ skilled (+1) crew (Mamdouh Taliba)

1x MiG-17F w/ green (+0) crew

(set up over west end of the airfield, speed 3, TAL 1 SURF. LOW CAB)

Patrol Element (5th Air Brigade)

2x MiG-21PFM w/ skilled (+1) crew (incl. Awad Hamdi)

(enter turn d4 from board edge 1 or 2, any speed, TAL 5 SURFACE LOW CAB)

Hafez's MiG (31 Squadron)

1x MiG-17F w/ skilled (+1) crew (Mustafa Hafez)

(set up turn 6-8 on the middle of the runway, speed 2, TAL 1 SURFACE LOW CAB, heading west, see scenario rules)

1x IL-14 w/ veteran (+2) crew

(set up first as shown on the map, speed 3, TAL 1 S.LOW CAB)

VARIABLE RULES

- 1-5 **The Spirit of Revenge is with Hamdi**
Replace the skilled (+1) MiG-21 crew with a veteran (+2) crew.
- 6-7 **Lucky Timing**
Either Hafez's MiG enters turn 2 or Patrol Element enters turn 4.
- 8-10 **Cleared to Fire!**
Add 2x Light AAA Batteries; these must be set up first within 10 hexes of the airfield, they are hidden until fired.

SCENARIO RULES (continued)

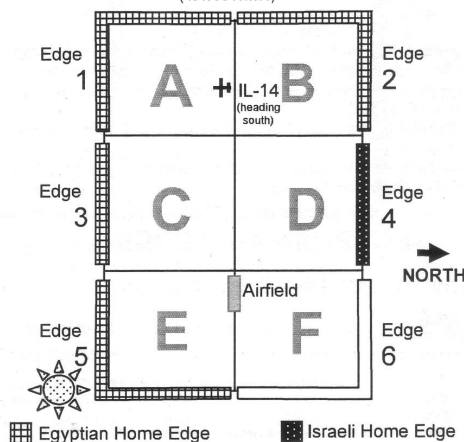
6. At the start of turn 6 the Egyptian player rolls a d6, on a 1 or 2 the **Hafez's MiG** is placed on the board immediately, on a 3 or 4 the **Hafez's MiG** is placed on the board on turn 7, on a 5 the **Hafez's MiG** is placed on the board turn 8 and if 6 or more is rolled the **Hafez's MiG** does not enter at all. If the airfield has been hit by two or more strafing attacks prior to the roll, add two (+2) to the die roll.
7. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

While Armon and his flight chased an incoming IL-14 transport, Taliba and another MiG-17 launched without incident. The IL-14 approaching the airbase during the attack was carrying Egyptian Chief-of-Staff Amer, EAF Commander Sidqi, and a Soviet Air Force General – the group was flying to tour Sinai defenses that morning. Shortly after the IL-14 evaded to the south, two MiG-21s from neighboring Abu Suweir, lead by Awad Hamdi, intercepted the Mysteres. Hamdi fired AA-2 missiles forcing Amiram Manor's Mystere to hit the ground while his wingman fired missiles that destroyed Alex Armon's Mystere. After a short time, Hafez managed to find a ready aircraft and used his afterburner to launch off an undamaged taxiway (the picture at left is of Hafez and the damage done to his MiG after a later encounter with more Mysteres). Mustafa Hafez would go on to be a squadron commander in the 1973 conflict. The IL-14 finally landed safely near Cairo, allowing Field Marshal Amer and his plane-mates to tally the results of Operation Moked.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 105 Squadron

1x Super Mystere w/ skilled (+1) crew (Alexander Armon)

1x Super Mystere w/ veteran (+2) crew (Yaakov Nevo)

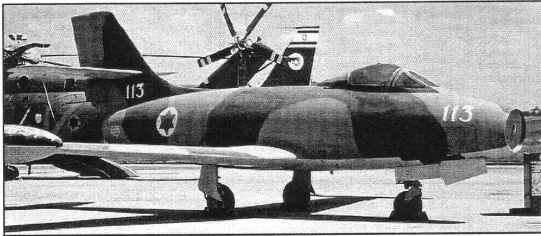
2x Super Mystere w/ green (+0) crew (Zvi Umschweif, Amiram Manor)

(set up last in board area C or D greater than 10 hexes from the IL-14 and greater than 5 hexes from the airfield, heading west, speed 4, TAL 1 SURFACE LOW CAB)

VARIABLE RULES

- 1-3 **Lucky Zvi**
Replace a green (+0) S.Mystere crew with a skilled (+1) crew.
- 4-5 **Direct hit on the Taxiway**
Hafez's MiG must add one (+1) to its turn of entry roll and may not come in turn 2 as part of **Lucky Timing** (the Egyptian player must choose the other option).
- 6-8 **Bad Release**
Two Super Mysteres must start in board area C within 3-5 hexes of the airfield and start at speed 4.
- 9-10 **Lower on Fuel**
All Super Mysteres have one fewer Afterburner box.

Air Attack Bir Thamada



SETTING

Date: 5 June 1967, 0846 hours (Cairo time).

Location: Over Bir Thamada Airbase, Sinai, Egypt.

History: The first wave attack on Bir Thamada included Mirages from 101 Squadron and a contingent of Ouragans. As the Ouragans passed over the field, several Egyptian alert MiG-21s scrambled to get into the air. The Ouragans had just released their bombs when an intercepting MiG launched from the airfield below.

Conditions: Visibility: 16; Sun: Edge 6

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +1 VP for each Israeli crew captured (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +2 VPs for each bomb hit achieved on the Airfield.

Game Length: No limit.

SCENARIO RULES

1. The **Mirage IIIs** carry a medium bomb load and are full-load. They carry no missiles. The **Mirage III** radar may not detect or lock-on to lower targets and they are not equipped with an Advanced Gun Sight.
2. The **Ouragans** are unloaded as they have just dropped their bombs.
3. Bir Thamada Airfield is placed at the intersection of areas C, D, E and F as shown on the map.

EGYPTIAN AIR FORCE

Elements of the 4th Air Brigade

Scramble MiG 1

1x MiG-21F-13 w/ skilled (+1) crew
(set up at the north end of the runway, speed 3, TAL 1 SURFACE LOW CAB)

Scramble MiG 2

1x MiG-21F-13 w/ green (+0) crew
(set up turn 1 on the middle of the runway heading north, speed 2, TAL 1 SURFACE LOW CAB)

Final MiG

1x MiG-21F-13 w/ skilled (+1) crew
(set up turn 2-4 on the middle of the runway heading north, speed 2, TAL 1 SURFACE LOW CAB, see scenario rule 6)

1x Light AAA Battery

(set up first anywhere within 5 hexes of the airfield)

VARIABLE RULES

- 1-4 **Hidden AAA Battery**
Add 1x **Medium AAA Battery**; set up first within 5 hexes of the airfield, it is hidden until it is fired.
- 5-6 **Inspired Pilot**
One random **MiG-21** with skilled (+1) crew fires guns at one skill level better but assumes ammunition depletion at one level worse.
- 7-8 **Maintenance Problems**
One random **MiG** has no afterburner.
- 9-10 **Hasty Take-off!**
As each **MiG** takes off, roll a d6; on a roll of 1 the **MiG** may not use its missiles; a maximum of one aircraft is affected by this rule (ground crew forgot to remove the safety pins - historical).

SCENARIO RULES (continued)

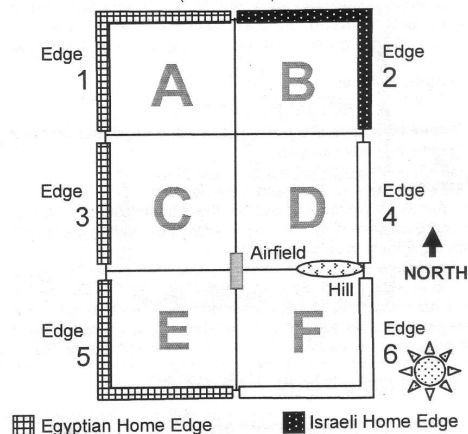
4. The **MiG-21s** carry 2x AA-2.
5. There is one tall hill (as shown on the map) that blocks line-of-sight to any aircraft flying at TAL 1 in the SURFACE LOW CAB. Aircraft at TAL 1 SURFACE LOW CAB may fly over these hills with no threat of collision.
6. At the start of turn 2, the Egyptian player rolls a d6: on a 1 or 2 the **Final MiG** is placed on the board immediately; on a 3 or 4 the **Final MiG** is placed on the board on turn 3; on a 5 or 6 the **Final MiG** is placed on the board turn 4.
7. The **AAA Batteries** are considered Point Targets and may be destroyed by bombs or strafing with one hit.
8. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

As the crews at Bir Thamada prepared for a visit from Chief-of-staff Amer and several VIPs, the base was suddenly attacked by Mirages and Ouragans nearly simultaneously, as planned. Dan Sever, noting a MiG taking off forced it to maneuver violently and crash. After a quick engagement an additional MiG was claimed destroyed in close action with an Ouragan. Upon landing the Ouragans of 113 Squadron would claim to have destroyed 8 MiGs, 1 Mi-4, 1 Mi-6, and 1 IL-14 on the ground. At 0852, Mystère IVAs from 109 Squadron would make a follow-on attack, claiming to destroy an additional 4 MiG-17, 1 Mi-4, and 1 IL-14.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAELI AIR FORCE

Elements of 101 and 113 Squadrons

Sever Element

1x **Mirage IIICJ** w/ veteran (+2) crew (Dan Sever)
1x **Mirage IIICJ** w/ green (+0) crew (I. Peer)
(enter turn 1 from board edge 2, speed 4, TAL 4 SURFACE LOW CAB)

113 Squadron Flight

4x **Ouragan** w/ green (+0) crew
(set up six hexes south of the runway in an east-west line facing southwest, speed 4, TAL 1 SURFACE LOW CAB)

VARIABLE RULES

- 1-4 **Late Mirages**
The **Sever Element** enters turn 2 instead of turn 1.
- 5-8 **Reserve Veteran**
One of the **Ouragan Flight** aircrew is a skilled (+1) aircrew.
- 9-10 **Low Fuel**
All **Mirage IIIs** have one fewer Afterburner boxes.

Scramble!



SETTING

Date: 5 June 1967, 1130 hours.

Location: Near Abu Suweir, west of the Suez Canal, Egypt.

History: A large group of Egyptian Air Force (EAF) MiGs were scrambled from a southern Egyptian base to intercept Israeli raids on 5 June. Near the airbase at Abu Suweir the EAF force met a group of Israeli Mirages. A large furball soon ensued.

Conditions: *Visibility:* 16; *Sun:* Edge 5

CAB: LOW and SURFACE LOW

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VPs if Giora Rom is killed or captured (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 16 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x Shafir 1 plus two large drop tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*. The **Mirage III** radar may not detect or lock-on to lower targets and they are *not* equipped with an Advanced Gunsight.
2. The **MiG-19s** and **MiG-21s** carry 2x AA-2 plus two large drop tanks. Drop tanks may not be released if flying at speed 6 or greater; while carrying the tanks they are *half-load*.

EGYPTIAN AIR FORCE

Elements of the 7th and 15th Air Brigades

1x **MiG-21F-13** w/ *skilled* (+1) crew

1x **MiG-21F-13** w/ *green* (+0) crew
(enter turn 1 on board edge 1, any speed, TAL 5 LOW CAB)

1x **MiG-21F-13** w/ *skilled* (+1) crew

1x **MiG-21F-13** w/ *green* (+0) crew
(enter turn 3 or 4 on board edge 1 or turn 4 on board edge 3, any speed, TAL 5 LOW CAB)

2x **MiG-19S** w/ *green* (+0) crew

(enter turn 1 to 3 from board edge 1, any speed, TAL 2 LOW CAB)

VARIABLE RULES

- 1-4 **Unnoticed**
The **MiG-19s** enter as *Hidden* aircraft.
- 5-6 **Inferior Maintenance**
One random **MiG** has no afterburner; another random **MiG** has one broken cannon.
- 7-8 **Poor Vectoring**
The **MiG-19s** must enter turn 6 from board edge 2.
- 9-10 **Soviet Training**
Replace one *green* (+0) **MiG-19** crew with a *skilled* (+1) crew.

SCENARIO RULES (continued)

3. There is one tall hill (as shown on the map) that blocks line-of-sight to any aircraft flying at TAL 1 in the SURFACE LOW CAB. Aircraft at TAL 1, SURFACE LOW CAB may fly over these hills with no threat of collision.
4. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

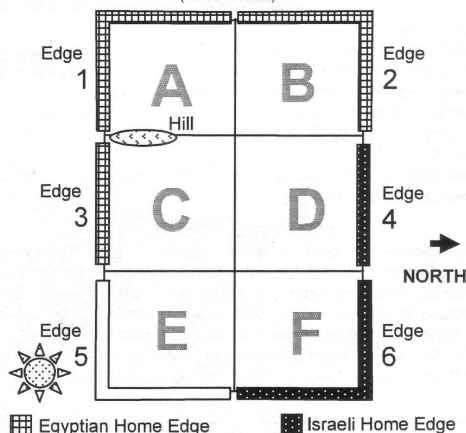
Over twenty MiGs (12 MiG-21s and 8 MiG-19s) and 16 Mirage IIIs engaged in the skies near Abu Suwayr. Four MiGs were soon claimed destroyed with others damaged. Additional returning MiGs were destroyed when they were unable to land at their home (or reserve) airfields due to damage caused by the Israelis or lack of fuel.

NOTES

This is a revised version of the Scenario in the **CY6-JA** Rules.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 119 Squadron

Rom Element

1x **Mirage IIICJ** w/ *veteran* (+2) crew (Giora Rom)

1x **Mirage IIICJ** w/ *skilled* (+1) crew
(enter turn 1 from the east board edge, speed 5, TAL 6 LOW CAB)

Support Element

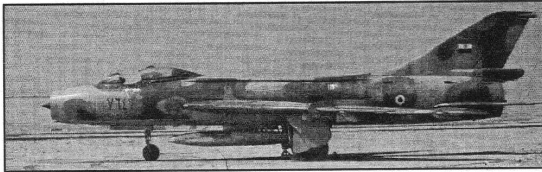
1x **Mirage IIICJ** w/ *skilled* (+1) crew

1x **Mirage IIICJ** w/ *green* (+0) crew
(enter turn 2 to 4 from the east board edge, speed 5, TAL 6 LOW CAB)

VARIABLE RULES

- 1-3 **Fly without the Missiles**
Remove both Shafir missiles from two random aircraft.
- 4-5 **Flanking Movement**
The **Support Element** must enter from board edge 4 on turn three or four.
- 6-7 **Low Fuel**
Each **Mirage III** has two fewer Afterburner boxes *unless* it is still carrying its drop tanks by start of turn 5.
- 8-10 **Yahalom**
One random **Mirage III** has 1x R530 instead of 2x Shafir 1.

Over the Front



SETTING

Date: 6 June 1967, 0730 hours.

Location: Near Abu Awayilah, Sinai, Egypt.

History: Even though Egyptian airbases had been hit hard, the EAF managed to fly sorties on 5 and 6 June. These flights included several sorties by Egypt's main ground-attack units including several equipped with the venerable Soviet SU-7. Egyptians viewed the large SU-7s as primarily for use in ground-attack missions but they were also used as fighters in the confusing first days after the Israeli attack. On a hastily planned attack mission, several SU-7s encountered a pair of Israeli helicopters over the front, the helicopters immediately called for help.

Conditions: *Visibility:* 16; *Sun:* Edge 5

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. Destroyed S-58s are worth +4 VPs, damaged are worth +0 VP.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: No limit.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x Shafir 1 plus two large drop tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*. The **Mirage III** radar may not detect or lock-on to lower targets and they are *not* equipped with an Advanced Gunsight.
2. The **Su-7s** may have missiles. Roll a d6 for each Su-7; on 5 or 6 it carries 1x AA-2, on 1-4 it carries no missiles.

EGYPTIAN AIR FORCE

Elements of 55 Squadron

Attack Element

1x Su-7B w/ *skilled* (+1) crew

1x Su-7B w/ *green* (+0) crew

(set up second in board area B or enter from edge 1 or 3 on turn 3-5, speed 4, TAL 1 SURFACE LOW CAB)

Cover Element

1x Su-7B w/ *skilled* (+1) crew

1x Su-7B w/ *green* (+0) crew

(set up second in board area A, speed 4, TAL 4 SURFACE LOW CAB)

VARIABLE RULES

- 1-4 **Soviet Veteran**
Replace the **Cover Element** *skilled* (+1) Su-7 crew with a *veteran* (+2) crew.
- 5-6 **Inferior Maintenance**
One random Su-7 has no afterburner; another random Su-7 has one broken cannon.
- 7-8 **Convergence Tactics**
The **Cover Element** may enter turn 4 from board edge 5.
- 9-10 **Keep the Tanks!**
Each Su-7 also has two large drop tanks. If the Su-7s jettison the tanks on turn 5 or later, they receive one *additional* Afterburner box for use in the game. Drop tanks may not be released if flying at speed 6 or greater; while carrying the tanks they are *half-load*.

SCENARIO RULES (continued)

3. The Su-7s in **Attack Element** start as **Hidden Aircraft**.

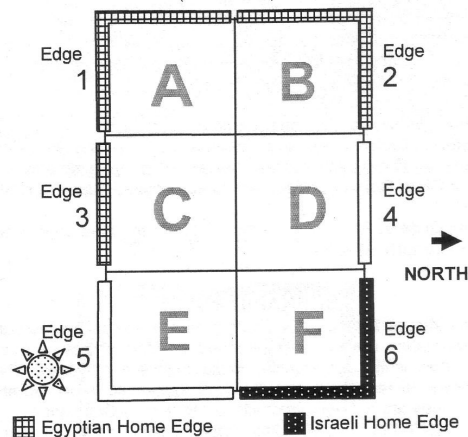
4. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

The SU-7s made several firing passes at the frantically evading helicopters but didn't manage to get any hits. Soon thereafter, a pair of Mirages from 119 Squadron intercepted the SU-7s; Oded Sagi managed to down one. Some sources indicate the SU-7 were flown by Soviet pilots, part of the Soviet contingent supporting several Soviet reconnaissance missions (including the over flight of the Israeli Dimona nuclear by MiG-25s).

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAELI AIR FORCE

Elements of 119 Squadron

1x **Mirage IIICJ** w/ *veteran* (+2) crew (Oded Sagi)

1x **Mirage IIICJ** w/ *skilled* (+1) crew

(enter turn 2 from board edge 6, speed 5, TAL 1 LOW CAB)

2x **S-58 Helicopter** w/ *veteran* (+2) crew

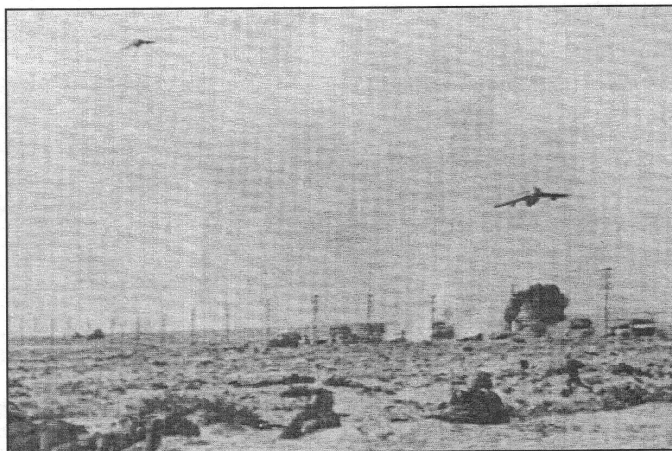
(set up first within 5 hexes of the middle of the board, speed 1, TAL 1 SURFACE LOW CAB)

VARIABLE RULES

- 1-2 **Lesser Helo Crew and Direct Soviet Involvement!**
One S-58 crew is *skilled* (+1) instead of *veteran* (+2).
-and-
Direct Soviet Involvement!
If the Egyptian player receives the **Soviet Veteran** Variable Rule, the **Cover Element** *veteran* (+2) crew is shot down, and at least 1 **Mirage III** and one S-58 exit a friendly board edge, the Israeli player receives an additional +2VPs for identifying direct Soviet involvement in the war.
- 3-4 **Open Formation**
The **Mirage III** with *skilled* (+1) crew may enter turn 3-5 from the east board edge.
- 5-6 **Helo Instructor**
One S-58 crew is *ace* (+3) instead of *veteran* (+2).
- 7-8 **Burn to the Aid of the Helos!**
The **Mirage IIIs** have one fewer Afterburner box.
- 9-10 **Direct Soviet Involvement!**
If the Egyptian player receives the **Soviet Veteran** Variable Rule, the **Cover Element** *veteran* (+2) crew is shot down, and at least 1 **Mirage III** and one S-58 exit a friendly board edge, the Israeli player receives an additional +2VPs for identifying direct Soviet involvement in the war.

SIX-DAY WAR: DESPERATE DEFENSE

Scenarios



Giora's Shahak



SETTING

Date: 7 June 1967, 1730 hours.

Location: Near Bir Jifafah Airbase (or Israeli name Refidim), Sinai, Egypt.

History: After claiming two EAF MiG-21s, one Syrian MiG-21 and taking shrapnel in the leg on 6 June, Giora Rom managed to extricate himself from the hospital and make it back to his squadron on 7 June. After managing to obtain a Doctor's OK to fly (at the insistence of his CO Ran Ronen), he launched on a ground attack mission toward Ras Sudr and Sharm el-Sheikh. After take-off the ground intercept controller ordered the Mirages to turn north and drop their tanks. Soon thereafter the Mirages spotted several MiG-17s that were attacking two Israeli Super Mysteres.

Conditions: Visibility: 16; Sun: Edge 1

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VPs if Giora Rom is killed or captured (beyond Campaign VP rules) and an additional +1 VP for each **Super Mystere** on the board at the end of each turn starting turn 8.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +1 VP for each **Troop Position** damaged and +3 VP for each **Troop Position** destroyed.

Game Length: 12 turns.

SCENARIO RULES

1. The **Mirage IIIs** do not carry missiles (they have just jettisoned their ground-attack munitions and drop tanks).

EGYPTIAN AIR FORCE

Elements of "Big Squadron"

Attack Element

1x MiG-17F w/ skilled (+1) crew

1x MiG-17F w/ green (+0) crew

(set up third in board area E or F greater than 6 hexes from any Israeli aircraft, speed 5, TAL 4 SURFACE LOW CAB)

Cover Element

1x MiG-17F w/ skilled (+1) crew

1x MiG-17F w/ green (+0) crew

(set up third in board area A or B greater than 8 hexes from any Israeli aircraft, speed 5, TAL 4 SURFACE LOW CAB)

Reserve Element

2x MiG-17F w/ green (+0) crew

(enter turn 3 from board edge 1, any speed, TAL 1 LOW CAB)

3x Troop Positions

(set up first within 10 hexes of the intersection of areas A, B, C and D)

2x Light AAA Batteries

(set up first within 10 hexes of the intersection of areas A, B, C and D)

VARIABLE RULES

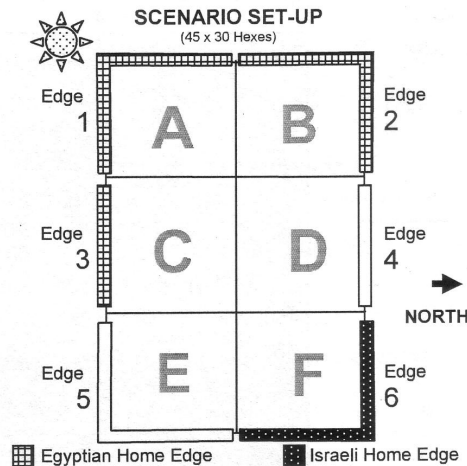
- 1-3 **Natural Pilot**
Replace the **Cover Element green (+0) MiG-17** crew with a **skilled (+1) crew**.
- 4-6 **Delayed Coordination**
The **Reserve Element** enters turn 5 from board edge 1 or 3.
- 7-8 **Mobile AAA**
The Egyptian player may place one **Hidden Medium AAA Battery** anywhere within 10 hexes of the center of the board. It is a point target, destroyed with one hit, and hidden until it fires.
- 9-10 **Where is the AAA!?**
Remove one **Light AAA Battery**.

SCENARIO RULES (continued)

2. The **Super Mysteres** carry **medium** bomb loads and are considered **full-load**. Any air-to-air fire from the **Super Mysteres** must take a minus one (-1) to-hit die roll penalty.
3. The **Troop Positions** are damaged with one hit, and are destroyed by two hits.
4. The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.
5. Whenever an Egyptian aircraft is within 6 hexes of an enemy aircraft targeted by AAA fire and within engagement parameters, roll a d6 before firing; on 1-2 the AAA must fire on the friendly target.
6. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

As the MiG-17s closed on the Super Mysteres, they were pounced upon by the 119 Squadron Mirages. The dogfight soon evolved into an ultra low-level engagement, with MiGs sometimes flying as low as 30 feet. Rom engaged one of the trailing MiGs at very low level and achieved a hit but failed to destroy it. He fired another burst and watched the MiG crash after it stalled. He then engaged his afterburner to catch another MiG, flying at over 800mph. He finally spotted and shot down another MiG with cannon. Egyptian sources claimed one Super Mystere was destroyed in this engagement; other sources report that Igal Shochat's Mystere was lost to MiG-17s on this date. "Shahak" (Skyblazer) is the name for the Mirage III in Israeli service.



ISRAEL AIR FORCE

Elements of 119 and 105 Squadrons

1x **Mirage IIICJ** w/ **veteran (+2) crew** (Giora Rom)

1x **Mirage IIICJ** w/ **skilled (+1) crew**

(enter turn 2 from board edge 3, any speed, TAL 4 LOW CAB)

1x **Super Mystere** w/ **skilled (+1) crew**

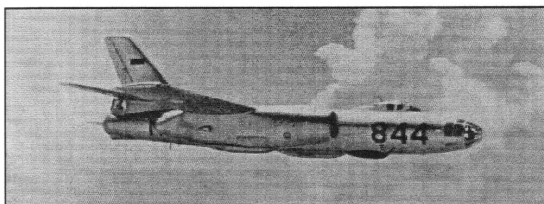
1x **Super Mystere** w/ **green (+0) crew** (Igal Shochat)

(set up second in board area C or D greater than 2 hexes from any Egyptian Target, heading west, speed 4, TAL 3 SURFACE LOW CAB)

VARIABLE RULES

- 1-3 **Lucky Shochat**
Replace the **green (+0) S.Mystere** crew with a **skilled (+1) crew**.
- 4-5 **Good Ground Control Intercept**
The **Mirage IIIs** may enter turn 1 from board edge 5 rather than edge 3.
- 6-7 **Abreast Formation**
The **Mirage IIIs** must enter the board greater than 10 or more hexes from each other.
- 8-10 **Burn to the Mysteres**
The **Mirage IIIs** have one fewer Afterburner box.

Destroy the Bombers!



SETTING

Date: 8 June 1967, 0930 hours.

Location: Over Sinai, Egypt.

History: One of the most important targets for the Israeli attack was the Egyptian medium bombers (IL-28s) as it was determined that these aircraft posed the greatest capability to deliver chemical or biological weapons against Israel. On 8 June, an IL-28 raid was detected by Israeli CAP aircrews over the Sinai; this created an Air Force wide call to converge all available fighters to destroy the raiders. The Egyptian bombers managed to drop their bombs and were heading home when they were intercepted.

Conditions: Visibility: 16; Sun: Edge 5

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: The Egyptian player places two 10-hex clouds, TAL 1-6 LOW CAB; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VPs per IL-28 that exits the west board edge.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 14 turns.

SCENARIO RULES

1. The **Mirage IIIs** must enter in two formations and carry 2x Shafrir 1 plus two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*.
2. **Mirage III** radar may not detect or lock-on to lower targets and they are *not* equipped with an Advanced Gun Sight.
3. The **MiG-21s** carry 2x AA-2.
4. The **MiG-21s** enter from above. At the start of its Move Group, place the entering aircraft anywhere within the area noted on the Scenario Set-up at TAL 6. This placement counts as the aircraft's move. On subsequent turns, move as normal.

EGYPTIAN AIR FORCE

Elements of the 61st, 20th and 7th Air Brigades

- 3x IL-28 w/ *skilled* (+1) crew
(set up second in area E or F, speed 3, TAL 6 SURFACE LOW CAB)
- 2x MiG-17F w/ *skilled* (+1) crew
(set up third in area A or B greater than 5 hexes from any Israeli aircraft, speed 5, TAL 2 SURFACE LOW CAB)
- 1x MiG-21F-13 w/ *skilled* (+1) crew
- 3x MiG-21F-13 w/ *green* (+0) crew
(enter from above turn 4-6, any speed, TAL 6 LOW CAB)

VARIABLE RULES

- 1-4 **Inspired Pilot**
Replace one *green* (+0) MiG-21F crew with a *skilled* (+1) crew.
- 5-6 **Inferior Maintenance**
One random MiG must roll a d6 each time it uses its afterburner; on a 1-3 its afterburner malfunctions and does not work for the rest of the scenario.
- 7-8 **Talented Tail Gunner**
One random IL-28 has a tail gun that fires as *veteran* (+2) crew.
- 9-10 **Air Combat Survivor**
Replace one *skilled* (+1) MiG-17 crew with a *veteran* (+2) crew.

SCENARIO RULES (continued)

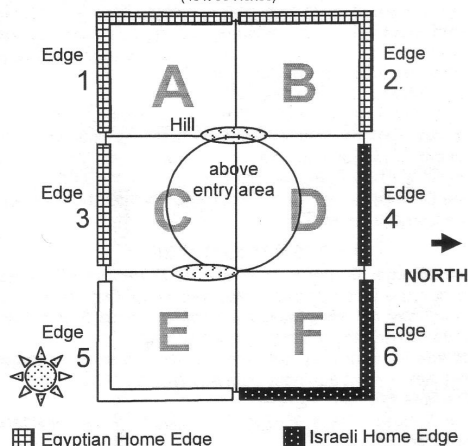
5. There are two tall hills (as shown on the map) that block line-of-sight to any aircraft flying at TAL 1 in the SURFACE LOW CAB. Aircraft at TAL 1 SURFACE LOW CAB may fly over these hills with no threat of collision.
6. IR Missiles may not be fired at targets in clouds.
7. The IL-28s are *unloaded* and must always move first as bombers.
8. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

The first flight of intercepting Israeli fighters was quickly involved with several MiG-17s on a separate interception mission. A second group of Israeli fighters (called to the scene) was then intercepted by MiG-21 escorts. In the ensuing combat, one MiG-21 and one IL-28 was claimed destroyed by Menachem Shmul. Avraham Salmon would go on to be Israel's second highest scoring ace.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 119 Squadron

Salmon Flight

- 1x Mirage IIICJ w/ *veteran* (+2) crew (Avraham Salmon)
- 1x Mirage IIICJ w/ *skilled* (+1) crew (Reuven Rozen)
(set up first in area A or B, speed 5, TAL 1 SURFACE LOW CAB)

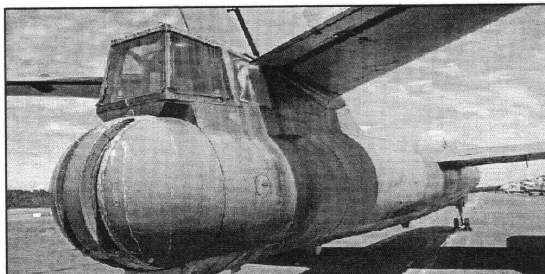
Agassi Flight

- 1x Mirage IIICJ w/ *green* (+0) crew (Ya'acov Agassi)
- 1x Mirage IIICJ w/ *veteran* (+2) crew (Menachem Shmul)
(enter turn 3-6 from board edge 3, speed 5, TAL 6 LOW CAB)

VARIABLE RULES

- 1-2 **Fly without the Missiles!**
Remove both Shafrir missiles from one random aircraft.
- 3-5 **Flanking Movement**
Agassi Flight may also enter from board edge 5 on turn 5.
- 6-8 **The Unlucky Mirage!**
Salmon's *Mirage* was considered "unlucky" and had gun jamming problems. Each time Salmon fires his guns, if any doubles are rolled, one gun is jammed. If doubles are rolled a second time both guns are permanently jammed.
- 9-10 **Burn to Get There**
Each aircraft in *Agassi Flight* has one fewer Afterburner box.

Sneak Attack



SETTING

Date: 8 June 1967, 1800 hours.

Location: North of el-Arish Air Base, Sinai, Israeli Territory.

History: Late in the afternoon a lone IL-28 and its escorts attempted a low-level mission to attack the now Israeli occupied al Arish airfield in on the north coast of the Sinai. The attacking force was detected in time for the ready-alert Mirages of 119 Squadron to launch and intercept. They immediately clashed with the bomber's escorts. A second flight soon joined the fight.

Conditions: Visibility: 16; Sun: Edge 3

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded +8 VPs for one bomb hit or +12 VPs for two bomb hits on the **Airfield**.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: No limit.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x Shafrir 1. **Scramble Flight** also carries the same missiles plus two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*.
2. **Mirage III** radar may not detect or lock-on to lower targets and they are *not* equipped with an Advanced Gun Sight.
3. The **MIG-19s** carry 2x AA-2.
4. The **IL-28** carries a *Medium* bomb load and is considered *half-load*.

EGYPTIAN AIR FORCE

Elements of the 61st and 15th Air Brigades

- 1x **IL-28** w/ skilled (+1) crew
(enter from the north board edge, speed 3, TAL 3 S. LOW CAB)
- 1x **MIG-19S** w/ skilled (+1) crew
- 1x **MIG-19S** w/ green (+0) crew
(enter from the north board edge turn 1, any speed, TAL 4 LOW CAB)
- 1x **MIG-19S** w/ skilled (+1) crew
- 1x **MIG-19S** w/ green (+0) crew
(enter from board edge 3 on turn 3 or board edge 5 on turn 6, any speed, TAL 6 LOW CAB)

VARIABLE RULES

- 1-4 **Spirit of the Desert**
One random **MIG-19** aircrew fires guns at one skill level better but assumes ammunition depletion at one level worse.
- 5-6 **Inferior Maintenance**
One random **MIG-19** must roll a d6 each time it uses its afterburner; on a 1-3 its afterburner breaks and does not work for the rest of the scenario.
- 7-8 **Talented Tail Gunner**
The **IL-28** tail gunner fires as *veteran* (+2) crew.
- 9-10 **Air Combat Survivor**
Replace one *skilled* (+1) **MIG-19** crew with a *veteran* (+2).

SCENARIO RULES (continued)

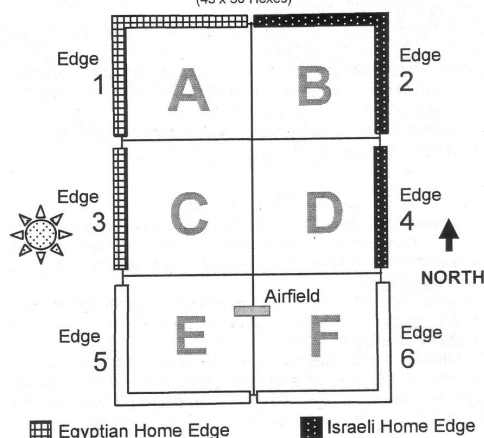
5. el-Arish Airfield is located on the board, five hexes south of the intersection of board areas C, D, E, F. The Israeli player may place one Light AAA battery within 5 hexes of the airfield.
6. Any visual spotting attempts against aircraft flying at TAL 1 or TAL 2 SURFACE LOW CAB take a die roll penalty of minus two (-2) to spot.
7. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

As several Mirages engaged the MiG-19s, a lone Mirage attacked the bomber. Quickly the Mirage was engaged by the bomber's twin tail guns and was forced to abort the initial attack. Arab sources claim the bomber was shot down and crashed on the beach but Israeli sources only list one IL-28 shot down on the 8th, presumably from the battles earlier in the day. Additionally, two MiG-19s were claimed destroyed.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

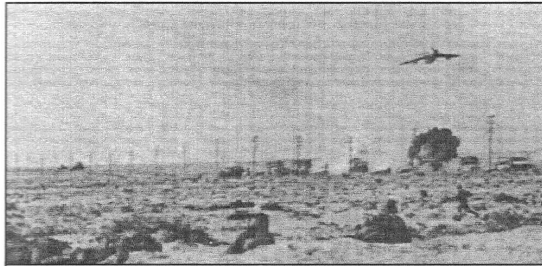
Elements of 119 Squadron

- Ready Flight**
1x **Mirage IIICJ** w/ *veteran* (+2) crew
1x **Mirage IIICJ** w/ *skilled* (+1) crew
(set up in board area C or D, speed 3, TAL 3 S. LOW CAB)
- Scramble Flight**
1x **Mirage IIICJ** w/ *skilled* (+1) crew
1x **Mirage IIICJ** w/ *green* (+0) crew
(set up within 2 hexes of the airfield, speed 1, TAL 1 S. LOW CAB)

VARIABLE RULES

- 1-2 **Low Stocks**
Remove one Shafrir missile from two random aircraft.
- 3-4 **Use the BURNER**
Scramble Flight may start at speed 2 but must use one afterburner box on each aircraft.
- 5-6 **Low Fuel**
Both aircraft in **Ready Flight** have only two afterburner boxes.
- 7-8 **Confusion - Delayed Launch**
Scramble Flight must set up as above but on turn 2.
- 9-10 **Yahalom**
One random **Mirage III** has 1x R530 instead of 2x Shafrir 1.

Sinai Strike



SETTING

Date: 8 June 1967, 1625 hours.

Location: Over the Northwest Sinai, Israeli Territory.

History: Egyptian forces, though battered, persisted in launching over 40 ground attack sorties on advancing Israeli forces on 8 June. In response, Mirage squadrons took turns flying Combat Air Patrol (CAP) missions over the front in an effort to interdict these attacks. On 8 June, a two-ship element from 101 Squadron was nearing the end of its patrol when Ground Control vectored them to intercept attacking aircraft.

Conditions: *Visibility:* 16; *Sun:* Edge 1

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +1 VP for each **Troop Position** damaged and +3 VPs for each **Troop Position** destroyed.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 12 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 1x Shafrir 1 and only have one Afterburner box each.
2. The **MiG-21s** carry Multiple-Rocket Pods and are considered half-load until jettisoned or fired. The Multiple-Rocket Pods may be fired at air targets and are treated as one shot with 4 LVHC.
3. The **MiG-17** carry light bomb loads and are considered full-load.
4. IR Missiles may not be fired at targets in smoke.

EGYPTIAN AIR FORCE

Elements of the 102nd Air Brigade

Shuwakri Flight

1x MiG-21F-13 w/ *skilled* (+1) crew (Nabil Shuwakri)

3x MiG-21F-13 w/ *green* (+0) crew

(set up second in board area A or B facing east, any speed, TAL 4 SURFACE LOW CAB)

Strike Element

1x MiG-17F w/ *skilled* (+1) crew

3x MiG-17F w/ *green* (+0) crew

(enter turn d4+1 from board edge 1 or 2, any speed, TAL 4 SURFACE LOW CAB)

VARIABLE RULES

- 1-3 **Spirit of the Sphinx**
Replace the **Shuwakri Flight** *skilled* (+1) crew with a *veteran* (+2) crew.
- 4-5 **Falling Behind**
Two of the **Strike Element** *green* (+0) MiG-17s must enter turn 5 from board edge 2.
- 6-8 **Battlefield Smoke**
The Egyptian player may place 3 four-hex long single rows of smoke anywhere on the board. These smoke plumes block line of sight as if they were clouds effecting TAL 1-6 SURFACE LOW CAB, and remain in place for the duration of the game. The smoke rows must be parallel and are placed before the AAA Batteries.
- 9-10 **Where is the AAA!?**
Remove one Israeli Light AAA Battery of the Egyptian player's choice.

SCENARIO RULES (continued)

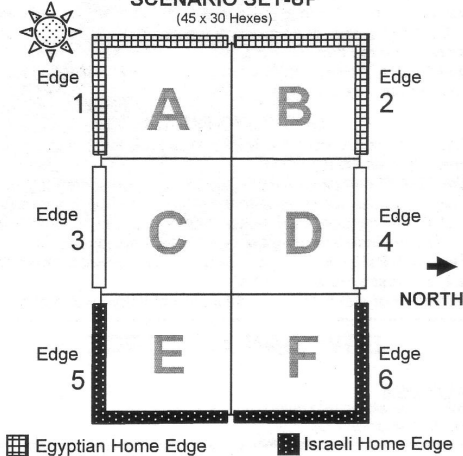
5. The **Troop Positions** are point targets, are damaged with one hit, and are destroyed by two hits.
6. The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.
7. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

The Mirages were low on fuel when the call came for them to intercept (each had less than 1200 liters, less than half their internal fuel load) but they diligently obliged the order. Yosef Arazi (the 101 Squadron flight leader) first spotted a MiG-21 attacking Israeli troop positions. As he dove on the target, he quickly spotted another three MiG-21s and an additional flight of MiG-17s. A swirling dogfight ensued; at one point Arazi had to break off an attack when a MiG-21 fired air-to-ground rockets at his aircraft. Arazi then found a MiG-21 target and destroyed it with a long cannon burst. Arazi engaged another aircraft but soon expended all his ammunition and quickly disengaged from the fight. Arazi landed at a forward airfield with less than 100 liters of fuel while his wingman, Maoz Poraz was forced to eject due to his Mirage running out of fuel. Nail Shuwakri was one of the few pilots to down an Israeli aircraft; on 5 June, flying out of Inshas, he shot down a Mirage III flown by Yair Neuman of 101 Squadron. Nabil Shuwakri retired as a Major-General in the EAF.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 101 Squadron

2x **Mirage IIICJ** w/ *skilled* (+1) crew (Yosef Arazi, Maoz Poraz)

(enter turn 1 from the east board edge, any speed, TAL 4 LOW CAB)

8x Troop Positions

(set up first within 7 hexes of the center of the board with at least two hexes between each)

2x Light AAA Batteries

(set up first within 10 hexes of the center of the board)

VARIABLE RULES

- 1-3 **No Shafrir Shortage**
One random **Mirage III** has 2x Shafrir.
- 4-6 **Shalom!**
The **Mirage IIIs** may enter turn 1 from board edge 3 or 4 rather than the east board edge.
- 7-8 **Mirage Luck**
One random **Mirage III** may ignore the first hit against it.
- 9-10 **Mirage Luck -and- No Shafrir Shortage**

Mystere Ground Pounding



SETTING

Date: 8 June 1967, 1800 hours.

Location: Along the front lines, Sinai, (see Scenario Rules).

History: In the afternoon of the fourth day of the war there was a distinct increase in Egyptian air support as the army attempted to make an orderly retreat from Sinai. Egyptian air units had combined their remnants and were assigned to "free hunting" ground attack missions in hopes of slowing the Israeli advance. Late in the day, a group of EAF MiG-17s found and attacked an Israeli armored convoy. Within moments of the start of the attack, a flight of Super Mysteres on their own strike mission spotted the MiGs. Dumping their bombs they raced towards the convoy and attempted to break up the attack.

Conditions: Visibility: 16; Sun: Edge 1

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +2 VPs for each Armored Convoy hex damaged and +3 VPs for each destroyed.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: No limit.

SCENARIO RULES

- Any air-to-air fire from the **Super Mysteres** must take a minus one (-1) to-hit die roll penalty.
- The **MiG-17** carry *light* bomb loads and are considered *full-load*.
- The combat is occurring over the front lines; board areas A, B and C are considered Egyptian territory and D, E, and F are considered Israeli territory for crew capture purposes.
- The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.
- Aircraft must plot their turn and location of entry prior to play.

EGYPTIAN AIR FORCE

Attack Element

1x MiG-17F w/ skilled (+1) crew

3x MiG-17F w/ green (+0) crew

(set up second in board area A or B greater than 5 hexes from any Israeli ground unit, heading east, speed 5, TAL 4 SURFACE LOW CAB)

Second Element

1x MiG-17F w/ skilled (+1) crew

1x MiG-17F w/ green (+0) crew

(enter turn 2 from board edge 1 or 2 or turn 4 from board edge 3, speed 5, TAL 4 SURFACE LOW CAB)

VARIABLE RULES

- Old Veteran**
Replace the **Second Element** skilled (+1) MiG-17 crew with a veteran (+2) crew.
- Old Egyptian Tricks**
The **Second Element** enters turn 3 from the south edge of board edge 5.
- Battlefield Smoke**
The Egyptian player may place 2 four-hex long single rows of smoke anywhere on the board. These smoke plumes block line of sight as if they were clouds effecting TAL 1-6 SURFACE LOW CAB, and remain in place for the duration of the game. The smoke rows must be parallel and are placed before the AAA Batteries.
- Where is the AAA!?**
Remove one Light AAA Battery.

SCENARIO RULES (continued)

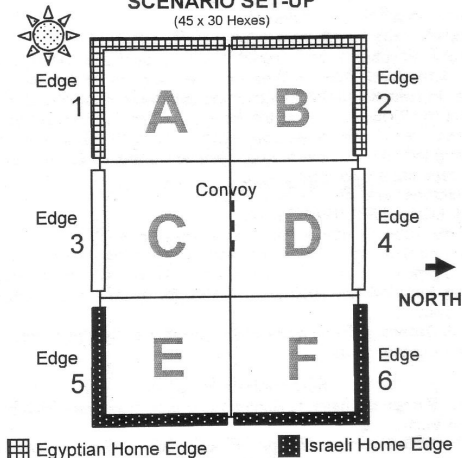
- An Israeli **Armored Convoy** should be positioned as shown on the map; it is approximately six hexes long. Each hex of the convoy is a point target, is damaged with one hit, and destroyed by two hits. The **Armored Convoy** may be damaged by bombs and/or strafing from MiG-17s.

AFTERMATH

The Mysteres were quickly engaged with the MiG-17s in a 4 v. 6 swirling melee. The attack on the convoy was broken up but at a seemingly deadly cost. Egyptian forces claim to have downed one Super Mystere. Seemingly, the MiG-17 crews were comparable to their Israeli opponents in terms of pilot skill.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 105 Squadron

Lead Element

2x Super Mystere w/ skilled (+1) crew

(set up third in board area E or F within 7 hexes of the east board edge heading west, speed 5, TAL 3 SURFACE LOW CAB)

Trail Element

1x Super Mystere w/ skilled (+1) crew

1x Super Mystere w/ green (+0) crew

(enter turn d4+2 from board edge 5 or 6, speed 4, TAL 3 SURFACE LOW CAB)

Armored Convoy

(set up first along a west-east axis in the middle of the board as shown)

2x Light AAA Batteries

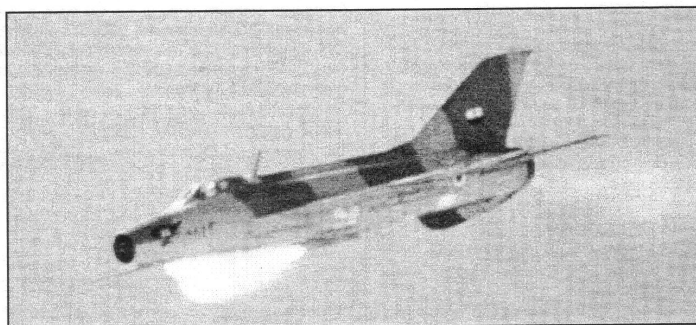
(set up first within 5 hexes of the convoy)

VARIABLE RULES

- Lucky New Guy**
Replace the green (+0) S.Mystere crew with a skilled (+1) crew.
- Tactical Skill**
After all aircraft, AAA, and smoke is set up but prior to play, the Israeli player may move the Armored Convoy up to 10 hexes either north or south.
- Battlefield Smoke**
The Egyptian player may place 1 four-hex long single row of smoke anywhere on the board. This smoke plume blocks line of sight as if it were clouds effecting TAL 1-6 SURFACE LOW CAB, and remains in place for the duration of the game. The smoke row must be parallel to any other rows and is placed before the AAA Batteries.
- Mobile Medium AAA**
The Israeli player may place one Hidden Medium AAA Battery anywhere within 10 hexes of the center of the board. It is a point target, destroyed with 1 bomb hit, and hidden until it fires.

ATTRITION WAR

Scenarios



Reuven and Ismail's Lucky Day



SETTING

Date: 14 April 1969, 1530 hours.

Location: Northern Sinai, west of Refidim Airbase, Israeli Territory.

History: In the aftermath of the 6-day war, conflict had hardly disappeared from the Sinai. Scores of Egyptian aircraft and a few Israeli aircraft had been destroyed in the simmering after-war conflict that soon was called by Gamal Abdel Nasser the "War of Attrition". On 14 April, the EAF launched an armed reconnaissance mission over the northern Sinai (now occupied). This force was detected soon after crossing the Suez Canal and an intercept element of Mirages from 119 Squadron was scrambled from Refidim to intercept.

Conditions: Visibility: 16; Sun: Edge 3

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +1 VP for each Israeli Troop Concentration found; an additional +1 VP for each hit on a Troop Concentration.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +1 VP per Su-7 crew captured (beyond Campaign VP rules).

Game Length: 12 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x AIM-9B plus two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*.
2. The **MiG-21s** carry 2x AA-2 and are each equipped with a gun pod giving FF: 2x MC. They also carry two large drop tanks that may not be released if flying at speed 6 or greater; while carrying the tanks they are *half-load*. **MiG-21s** may not attack ground targets.
3. The **Su-7s** carry *heavy* bomb loads and are considered *full-load*; they may strafe or bomb ground targets. Any air-to-air fire from the **Su-7s** must take a minus one (-1) to-hit die roll penalty.

EGYPTIAN AIR FORCE

Elements of 104th Air Brigade

1x MiG-21PFM w/ *skilled* (+1) crew

1x MiG-21PFM w/ *green* (+0) crew

(set up second in board area D heading east or southeast, any speed, TAL 4 LOW CAB)

1x MiG-21PFM w/ *veteran* (+2) crew (Samir Aziz Mikhail)

1x MiG-21PFM w/ *green* (+0) crew (Ismail Imam)

(enter turn 2 from board edge 1 or turn 3 from edge 4, any speed, TAL 3 LOW CAB)

4x Su-7B w/ *green* (+0) crew

(set up first in board area C, any speed and TAL3 SURFACE LOW CAB)

VARIABLE RULES

- 1-3 **Ground Attack Specialist**
The **Su-7s** may automatically spot two ground targets as they enter the board and one **Su-7** crew is *skilled* (+1) instead of *green* (+0).
- 4-5 **Skilled Ground Control Intercept**
The *skilled* MiG element may face in any direction at start.
- 6-8 **Low Fuel**
Randomly select two MiGs, they have only 2 afterburner boxes.
- 9-10 **Not a Fireball Today!**
Two random MiGs may ignore the first lucky hit against them.

SCENARIO RULES (continued)

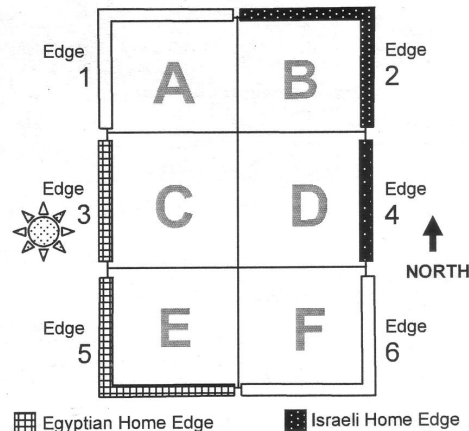
4. The Israeli player must place four **Hidden Troop Concentrations** (1 hex) and two **Light AAA Batteries** within 10 hexes of the center of the board; each must be at least 3 hexes away from any other. The **Light AAA** and **Troop Concentrations** are destroyed with one hit.
5. The Egyptian player may make visual spotting checks from the **Su-7s** to find the troop concentrations and AAA as if they were aircraft; any AAA that opens fire is automatically spotted.
6. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

The Mirages, led by Reuven Rozen, quickly spotted the intruders, and were preemptively engaged by the EAF MiG-21 escorts. In the actual event, Rozen had forgotten to jettison his fuel tank and fought the battle with it still attached. The MiGs and Mirages burned up the sky in a classic 2 v. many dogfight. Rozen fired one AIM-9B at a MiG but the enemy aircraft emerged from the missile detonation moving fast and trailing smoke, this aircraft was flown by Ismail Imam. Rozen was then hit by one AA-2 missile, fired by Samir Aziz Mikhail, an Egyptian Christian, who was one of Egypt's most accomplished fighter pilots, with two confirmed victories. Though holed in over 200 places, Rozen was able to nurse his Mirage to Refidim leaking oil; on final approach a warning light illuminated. He later stated, "Two minutes more and I would have had a problem." The Israelis claimed two kills for this mission and the Egyptians claimed one; the actual end result was one aircraft damaged on each side.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 101 Squadron

1x **Mirage IIICJ** w/ *veteran* (+2) crew (Reuven Rozen)

1x **Mirage IIICJ** w/ *skilled* (+1) crew (Menachem Eyal)

(set up third within five hexes of the south board edge in board areas E or F, heading north, speed 4, TAL 2 LOW CAB)

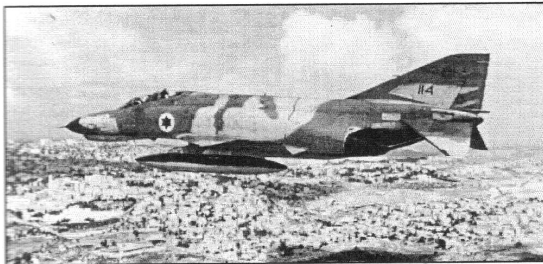
4x **Troop Concentrations** and 2x **Light AAA Batteries**

(set up as described in Scenario Rules)

VARIABLE RULES

- 1-4 **Forgot the Tank!**
Rozen's **Mirage** may not release its drop tanks until turn 4 or until his aircraft executes an extreme turn in level flight or climb.
- 5-6 **Rozen is Lucky Today**
Rozen's **Mirage** may ignore its first engine or airframe damage.
- 7-8 **Tactical Skill**
Reduce the number of Troop Concentrations to two (2).
- 9-10 **Extra Flak**
Add one additional Israeli **Light AAA Battery**.

First Kill: Phantom



SETTING

Date: 9 December 1969, 1800 hours.

Location: East of the Suez Canal, Sinai, Israeli Territory.

History: Egyptian ground control was now equipped with the Soviet P-15 Low Altitude Air Defense radar. On the evening of 9 December, Egyptian MiGs from the veteran 102nd Air Brigade at Inshas Airbase were vectored to intercept one of the many Israeli recon flights over the Sinai. This time, Egyptian MiGs were able to fly the intercept at low altitude and surprise the flight of Israelis.

Conditions: Visibility: 16; Sun: Edge 2

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VPs if the RF-4 RECON is destroyed and +1 VP if the RF-4 RECON exits any board edge (including exit by climb) other than board edge 6 (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded +2 VPs if the F-4 RECON exits board edge 6.

Game Length: No limit.

SCENARIO RULES

1. The RF-4 carries 1x AIM-9B and a reconnaissance pod on its centerline and is considered *half-load*; it may not jettison the pod.
2. The F-4s carry 2x AIM-7E and 4x AIM-9B missiles.
3. All Israeli aircraft are carrying heavy wing drop tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*. These tanks may be jettisoned any turn after spotting a MiG.

EGYPTAIN AIR FORCE

Elements of 102 Air Brigade

- 1x MiG-21F-13 w/ *veteran* (+2) crew (Ahmad Atif)
 3x MiG-21F-13 w/ *green* (+0) crew
 (set up second in board areas A, B or C, any speed, TAL 3 SURFACE LOW CAB)

VARIABLE RULES

- 1-4 **Soviet Training**
 Change one *green* (+0) MiG crew to *skilled* (+1).
- 5-9 **Open Formation**
 Two MiGs may set up in board area E.
- 10 **Low Fuel**
 Randomly select two MiGs, they have only 2 afterburner boxes.

SCENARIO RULES (continued)

4. The MiG-21s carry 2x AA-2 and start the game as *hidden* aircraft.
5. There are two tall hills (each about 4 hexes long and 1 hex wide) that block line-of-sight to any aircraft flying at TAL 1 in the SURFACE LOW CAB. Aircraft at TAL 1, SURFACE LOW CAB may fly over these hills with no threat of collision.
6. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

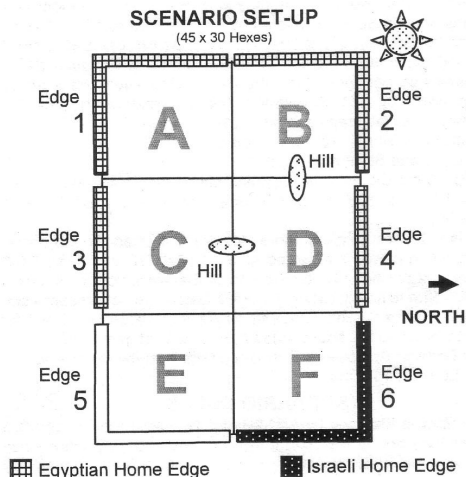
The reconnaissance aircraft escaped but the MiGs, led by Col. Ahmad Atif were able to damage one F-4 after firing two Atoll missiles. After the F-4 began smoking, he assumed it crashed on its way home and claimed credit. Atif became known as "First Phantom Killer" among his squadron-mates. Israeli sources later denied the shoot-down.

NOTES

This is a revised version of the Scenario in the CY6-JA Rules.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

- 2x F-4E w/ *skilled* (+1) crew
 (set up first within 10 hexes of board edge 6, speed 5, TAL 4 LOW CAB)
- 1x RF-4E RECON w/ *skilled* (+1) crew
 (enter from the west board edge within 10 hexes of the center of the edge, speed 5, TAL 2 LOW CAB)

VARIABLE RULES

- 1-3 **Mechanical Problem with New Aircraft**
 Randomly select one F-4; this aircraft has Extra Reduced Agility "(-)" for this scenario.
- 4-5 **Lucky Engine Hit**
 Randomly select one F-4, if this aircraft sustains Engine Damage, it must reduce speed by -5 rather than -3.
- 6-8 **Low Fuel**
 The RF-4E only has 3 afterburner boxes.
- 9-10 **None**

2-Kill Over the Canal



SETTING

Date: 10 July 1970, 0930 hours.

Location: West of the Suez Canal, Egypt.

History: Attacks and overflights over Egypt in January of 1970 inspired Nasser to go to Russia and request more direct air-defense assistance. In February 1970, the USSR initiated operation "Kavkaz" and deployed numerous SAM batteries and two regiments of fighters to Egypt. In concert with these plans, on 29 June, under cover of night, Egypt moved 12 batteries of newer SA-2 and several batteries of SA-3 SAMs east to more closely protect the Suez Canal area from Israeli incursions. This movement was coordinated with Soviet advisors and combat forces. After effective SAM ambushes on several Israeli aircraft, the IAF decided to strike back and launched hundreds of sorties attacking Egyptian SAMs and defensive positions along the Canal. One such attack on 10 July covered by 101 Squadron's Mirages and using new A-4 Skyhawks, was intercepted by MiG-21s.

Conditions: *Visibility:* 12; *Sun:* Edge 5

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* The Egyptian player may place two 10 hex clouds TAL 2-6, S.LOW CAB in board areas A and/or B; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +10 VPs if the **SA-3 Battery** has not been hit by the end of the scenario, or +5 VPs if the **SAM Site** is not hit (when the **SA-3 Battery** is not present - see Scenario Rule #7). The Egyptian player also receives +1 VP for each Israeli aircraft in board areas A, B, C or D at game end.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 15 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x AIM-9B plus two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*.
2. The **A-4s** carry *medium* bomb loads and are considered *full-load*. Any air-to-air fire from the **A-4s** must take a minus two (-2) to-hit die roll penalty.
3. The **MiG-21s** carry 4x AA-2.
4. IR Missiles may not be fired at targets in clouds.
5. The Suez Canal runs North-South in the center of areas E and F; the west side is Egypt and east side Israeli Territory for crew capture purposes.

EGYPTIAN AIR FORCE

- 1x **MiG-21MF** w/ *skilled* (+1) crew
- 1x **MiG-21MF** w/ *green* (+0) crew
(set up third in board area C or D, any speed, TAL 1 S.LOW CAB)
- 1x **SA-3B SAM Battery** w/ *green* (+0) crew and 8 missiles
(set up first within 8 hexes of the intersection of areas A, B, C and D)
- 1x **Light AAA Battery** & 1x **Medium AAA Battery**
(set up first within 10 hexes of the middle of the board)

VARIABLE RULES

- 1-2 **Soviet Personnel and Experience**
The **SAM-3B Battery** may set up anywhere in board areas C or D, starts Hidden and has a *skilled* (+1) crew instead of *green* (+0) crew.
- 3-7 **Tactical Training**
The **MiG-21s** may set up Hidden or may enter from any friendly board edge on turn 4.
- 8-10 **Soviet ZSU**
The Egyptian player may place one Hidden **ZSU Light AAA Battery** anywhere west of the Canal. It is a radar-directed Light AAA gun, a point target and is destroyed by 2 bomb hits.

SCENARIO RULES (continued)

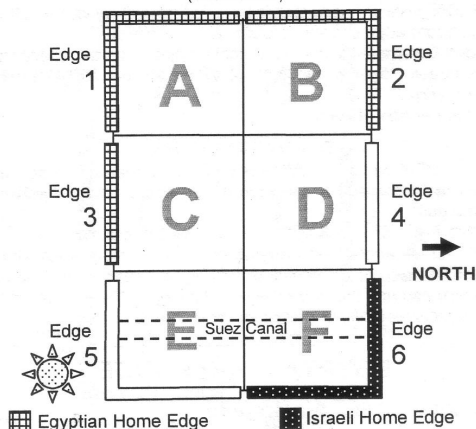
6. The Egyptian **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.
7. Prior to play, the Egyptian player must roll a d6; on 1 the **SAM Battery** is not in the game but rather is just a prepared **SAM Site** (see reduced victory points for Israeli player).
8. The **SA-3** is destroyed with one hit and may fire 1 or 2 missiles simultaneously at one target.
9. The board top is considered an unfriendly board edge for Israel.
10. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

The Mirage escort stayed with the Skyhawks all the way to the bombing run and quickly spotted the incoming MiGs on radar. In the actual attack, the Mirages called on the A-4s to abort their attack and winged toward the high altitude MiG targets. Moments later, the high altitude MiGs turned away and the Mirages ran directly into four additional MiG-21s at low altitude; a classic Egyptian trap. As Mirage #1 (Yiftach Spector) and #2 engaged the first two MiGs, Sharon (#3) and Baharav (#4) engaged the trailing two. A series of climb and dive maneuvers ensued with Baharav firing a Sidewinder then recovering from a dive pulling 10Gs causing his generator and alternator to malfunction; he then saw the targeted MiG crash into the ground. After a long tail-chase, Baharav used his cannon to destroy the second MiG- making it a 2-kill mission. Interestingly, these two kills were the 10th and 11th for Mirage (Shahak) #59 making it one of the highest scoring aircraft in the IAF.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 101 Squadron

- 1x **Mirage IIICJ** w/ *skilled* (+1) crew (Menachem Sharon)
- 1x **Mirage IIICJ** w/ *veteran* (+2) crew (Israel Baharav)
(set up second in board areas E or F heading west, speed 4, TAL 2 LOW CAB)
- 3x **A-4H** w/ *skilled* (+1) crew
- 1x **A-4H** w/ *green* (+0) crew
(set up second in board areas E or F heading west, speed 4, TAL 1 LOW CAB)

VARIABLE RULES

- 1-3 **Wide Combat Formation**
The *skilled* (+1) **Mirage III** must start more than 15 hexes from the other **Mirage III**.
- 4-6 **Israeli Intelligence Operations**
The Egyptian player must tell the Israeli player if the **SA-3B** is present or not and must reveal its location if it is hidden.
- 7-10 **Low Fuel**
One random **Mirage** has only two afterburner boxes.

Red Target: Skyhawk



SETTING

Date: 25 July 1970, 1000 hours.

Location: West of the Suez Canal, Egypt.

History: Starting in mid-April the two Soviet MiG-21 Air Regiments commenced flying air-defense patrols over the Nile valley; on 17 April Israeli controllers even called back a strike mission after it was discovered that it would be intercepted by Soviet fighters. By mid to late April, the IAF decided to end deep strike intrusions into Egypt, restricting itself to flying missions within 25-miles of the Canal. On 25 July, the IAF was fully involved in a campaign to counter Egyptian (and Soviet) artillery and SAMs along the west bank of the Canal; one such mission was intercepted by MiGs of the Soviet 135th Air Regiment (IAP).

Conditions: *Visibility:* 16; *Sun:* Edge 5

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Soviet Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +3 VPs for each **Artillery Position** that has not been hit by the end of the scenario.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +1 VP for each damaged. **Artillery Position** and +3 VPs for each **Artillery Position** destroyed.

Game Length: 12 turns.

SCENARIO RULES

1. The **MiG-21s** carry 4x AA-2 and may not fly east of the Canal.
2. The **A-4s** carry medium bomb loads and are considered full-load. Any air-to-air fire from the **A-4s** must take a minus two (-2) to-hit die roll penalty. **A-4s** may strafe and bomb ground targets.
3. The Suez Canal runs North-South in the center of areas E and F; the west is Egypt and east Israeli for crew capture purposes.
4. The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.
5. The **SA-7 Batteries** may only fire one missile per turn. The battery is not placed on the board until it fires.
6. The **Artillery Positions** are damaged with one hit, and are destroyed by two hits.

SOVIET AIR FORCE

Elements of 135th Fighter Air Regiment (IAP)

2x **MiG-21MF** w/ *skilled* (+1) crew

(set up third in board area A or B, any speed, TAL 1 S.LOW CAB)

3x **Artillery Positions**

(set up first within 5 hexes of the intersection of areas A, B, C and D)

2x **Light AAA Batteries**

(set up first within 10 hexes of the center of the board)

2x **SA-7 Batteries** w/ *green* (+0) crew and 2 missiles each

(set up first within 10 hexes of the intersection of areas A, B, C and D)

VARIABLE RULES

- 1-3 **Soviet Personnel and Training**
One **SA-7 Battery** has a *skilled* (+1) instead of *green* (+0) crew.
- 4-6 **The "New" Comrade**
Replace one *skilled* (+1) **MiG-21** crew with a *green* (+0) crew.
- 7-8 **Low Fuel**
Randomly select one **MiG**, it has only 2 afterburner boxes.
- 9-10 **Poor Missile Maintenance**
Remove one **SA-7 Battery**.

SCENARIO RULES (continued)

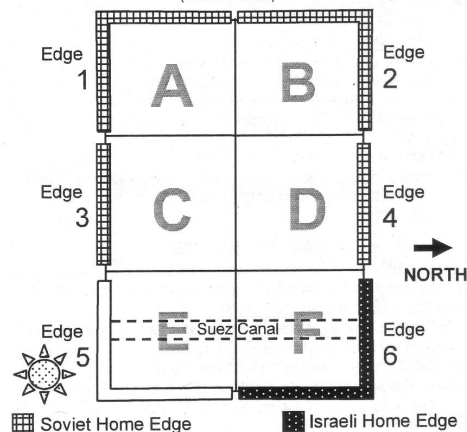
7. Whenever an Egyptian aircraft is within 6 hexes of an enemy aircraft targeted by **SA-7/AAA** fire and within engagement parameters, roll a d6 before firing; on 1-2 the **SA-7/AAA** must fire on the friendly target.
8. The board top is considered an unfriendly board edge for Israel.
9. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

Immediately as the Skyhawks attacked they were intercepted by the Soviet-flown MiGs. The dogfight developed into a low-level pursuit as the A-4s tried to disengage and escape to the east of the Canal. One MiG-21 fired an AA-2 an A-4 that exploded and severely damaged the target. The Soviet pilots broke off the attack but the damaged A-4 managed to make it back to Refidim. While the tactical results of this attack were minor, the strategic ramifications of a Soviet attack against the IAF were great. Planners at IAF Headquarters determined that they would need to teach the Soviets a lesson.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 102 Squadron

2x **A-4H** w/ *skilled* (+1) crew

(set up second within 5 hexes of the intersection of areas C, D, E and F, heading west, speed 4, TAL 3 SURFACE LOW CAB)

1x **A-4H** w/ *skilled* (+1) crew

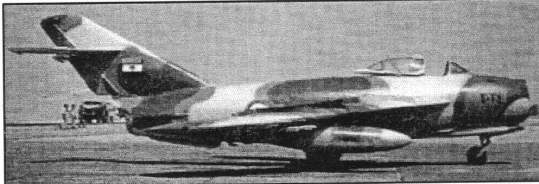
1x **A-4H** w/ *green* (+0) crew

(set up second in board areas E or F heading west, speed 4, TAL 3 SURFACE LOW CAB)

VARIABLE RULES

- 1-2 **Built Tough**
One random Israeli aircraft may ignore the first damage result against it.
- 3-4 **Israeli Intelligence Operations**
The Egyptian player must tell the Israeli player the location of one **SA-7 Battery**.
- 5-6 **Delayed Entry**
The *skilled* (+1) and one *green* (+0) **A-4** must enter from board edge 6 on turn three rather than set up as above.
- 7-10 **The Warhead Fragments are Soviet!**
If an **A-4** is damaged by an AA-2 missile attack and exits off a friendly board edge, the Israeli player is awarded an additional +2 VP (the Israelis now have proof of Soviet direct involvement [note this was historically the case]).

Arab Fire



SETTING

Date: 27 July 1970, 1530 hours.

Location: East of the Suez Canal, Israeli Territory.

History: The Israel Air Force was not the only one attacking in the vicinity of the Canal in 1970. The EAF was active in launching as many reprisal attacks as possible in July 1970. The ground-attack workhorse of the EAF was the venerable MiG-17. Many had been modified in Egypt to carry additional stores and fuel. The MiG-17 had earned respect around the world (including by this time in Vietnam) for its maneuverability and robustness. On 27 July 1970, MiG-17s were attacking Israeli ground troops near the Canal when a 117 Squadron element under the experienced Yiftach Spector was vectored to intercept.

Conditions: Visibility: 16; Sun: Edge 3

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +1 VP for each damaged **Troop Concentration** and +3 VPs for each destroyed **Troop Concentration**. The Egyptian player is also awarded an additional +4 VPs if Yiftach Spector is captured.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded +1 VP for each **Troop Concentration** that has not been hit by the end of the scenario.

Game Length: 10 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x AIM-9D plus two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*.
2. The **MiG-17s** carry *light* bomb loads and are considered *full-load*; they may strafe or bomb ground targets.
3. The **SA-2D Battery** may fire 1 or 2 missiles per turn.
4. The Suez Canal runs North-South in the center of areas A, C and F; the west side is Egypt and east side Israeli for crew capture purposes.

EGYPTIAN AIR FORCE

Lead Element

1x MiG-17F w/ *skilled* (+1) crew

1x MiG-17F w/ *green* (+0) crew

(set up third in board area C, speed 5, TAL 1 S.LOW CAB)

Trail Flight

1x MiG-17F w/ *skilled* (+1) crew

3x MiG-17F w/ *green* (+0) crew

(enter turn 1 from board edge 3, speed 5, TAL 1 S.LOW CAB)

1x Medium AAA Battery

(set up second anywhere west of the Suez Canal)

1x SA-2D Battery (Off-board) w/ *green* (+0) crew and 6 missiles

(set up off board edge 1, 3 or 5)

VARIABLE RULES

- 1-2 **Veteran of the 6-Day War**
Replace the *skilled* (+1) **Lead Element** MiG-17 crew with a *veteran* (+2) crew.
- 3-8 **Low Flying**
The *skilled* (+1) **Lead Element** MiG-17 may declare ultra-low flying at the start of any turn when at TAL 1, SURFACE LOW CAB. Any fire against it that turn receives an additional minus one (-1) to-hit modifier; at turn end it must pass an aircrew check or it hits the ground and is destroyed.
- 9-10 **Soviet ZSU**
The Egyptian player may place one Hidden ZSU Light AAA Battery anywhere west of the Canal. It is a radar-directed Light AAA gun, a point target and is destroyed by 2 bomb hits.

SCENARIO RULES (continued)

5. The **Troop Concentrations** are damaged with one hit, and are destroyed by two hits.
6. All **AAA Batteries** are a point targets, are not radar controlled, and are destroyed with one hit.
7. The board top is considered an unfriendly board edge for Israel.
8. Any Egyptian crew that successfully bailed-out over Israeli Territory (east of the Canal) may roll for special Crew Return; roll 2d6; if the roll is more than the distance to the edge of the Canal, the crew automatically returns to base.
9. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

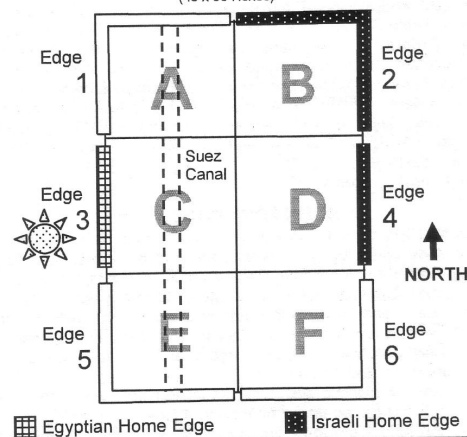
Spector aggressively engaged the MiGs, each breaking for the west bank of the canal and the protection of friendly AAA. Spector followed one MiG down to 100 feet and destroyed it with cannon fire. He loosed a missile at another MiG-17 and claimed it as destroyed. Spector would go on to earn 11 victories while a part of 101 and 107 Squadrons, finishing as one of Israel's top aces.

NOTES

The Israeli player should be wary of blindly engaging the MiG-17s in a two vs. many swirling dogfight – the Israelis respected the MiG-17's abilities under these conditions.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 101 Squadron

1x **Mirage IIICJ** w/ *veteran* (+2) crew (Yiftach Spector)

1x **Mirage IIICJ** w/ *green* (+0) crew

(enter turn 1 from board edge 2 or turn 2 from edge 4, heading west, speed 4, TAL 2 LOW CAB)

3x **Troop Concentrations**

(set up first, one each in the middle of board areas B, D and F)

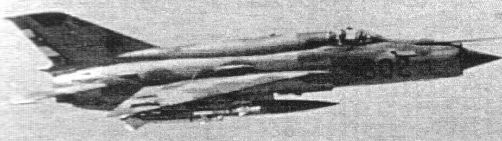
1x **Light AAA Battery**

(set up first within 10 hexes of one of the troop concentrations)

VARIABLE RULES

- 1-2 **Built Tough**
One random Israeli aircraft may ignore the first damage result against it.
- 3-5 **Expert Marksman**
Spector may ignore his first failed ammunition depletion roll.
- 6-7 **Older Stocks**
The *green* (+0) **Mirage III** has 2x AIM-9B instead of 2x AIM-9D.
- 8-10 **Wide Combat Formation**
The *green* (+0) **Mirage III** must enter from board edge 4 on turn three rather than set up as above.

Ambushing the Bear



SETTING

Date: 30 July 1970, 1537 hours.

Location: Northwest of the Suez Canal, near the coast, Egypt.

History: In the aftermath of the damaging of an A-4 by Soviet-flown MiGs on 25 July, IAF Chief of Staff Chaim Bar Lev resolved to plan and execute an ambush of the Soviet MiGs. By 30 July the plan was complete. Two "bait" flights were assembled, one of F-4s sent to attack Egyptian positions and one of Mirage IIIs from 119 Squadron who would masquerade as high altitude post strike reconnaissance aircraft. Additional F-4Es and Mirages would stand ready to respond to the Soviets. All the crews for the mission were handpicked and were some of Israel's greatest fighter pilots. Twelve of the IAF crew assigned to the mission had 59 kills between them. As planned, as the Mirages of 119 Squadron approached, elements of the Soviet 135 IAP launched to intercept.

Conditions: Visibility: 16; Sun: Edge 1

CAB: MEDIUM TOP and MEDIUM.

Clouds: Table Clouds: none; Cloud Border: none

Soviet Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +2 VPs for each Israeli crew captured (beyond Campaign VP rules) and +1 VP for each undamaged MiG-21 on the board at game end.

Israeli Orders: Achieve more victory points than the opponent. For this scenario, the Israeli player receives half (rounded down) the normal amount of VPs for each enemy aircraft damaged/destroyed.

Game Length: 15 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x AIM-9D.
2. The **MiG-21s** carry 4x AA-2.
3. The **F-4s** carry 2x AIM-7E2 and 4x AIM-9D missiles.
4. The Israeli **Hammer Element** and Egyptian **2nd Flight** enter from below. At the start of its Move Group, place the entering aircraft anywhere within the area noted on the Scenario Set-up at TAL 1, MEDIUM CAB. This placement counts as the aircraft's move. On subsequent turns, move as normal.
5. **Special Campaign Rule:** The winner of this scenario rolls twice on the Special Campaign Events Table (see page 20).

SOVIET AIR FORCE

Elements of 135th Fighter Air Regiment (IAP)

1st Flight

- 1x MiG-21MF w/ veteran (+2) crew (Kamencev)
- 1x MiG-21MF w/ skilled (+1) crew (Ivlev)
- 2x MiG-21MF w/ green (+0) crew (Zuravyev, Yurchenko)
(set up first in board area A or B, speed 6, TAL 3 MEDIUM CAB)

2nd Flight

- 1x MiG-21MF w/ veteran (+2) crew (VA Zuravlev)
- 3x MiG-21MF w/ green (+0) crew (Kolesovlev, Puskarskiy, Yakovlev)
(enter from below turn 3-4, any speed, TAL 1 MEDIUM CAB)

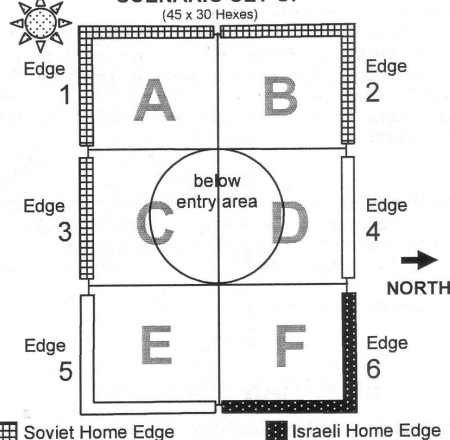
VARIABLE RULES

- 1-3 **Ammo Discipline**
One random MiG with veteran (+2) or skilled (+1) crew ignores its first out of ammunition result.
- 4-6 **Comrade Kurachov Taught Us Well**
Two MiGs from 1st Flight may enter turn 1 from board edge 3, note entry location prior to the start of play. The Egyptian player may start these aircraft on the table as per the normal set up but then remove them from the table just prior to play and enter them from the board edge.
- 7-8 **Coordination Problem**
2nd Flight may not enter until turn 4.
- 9-10 **Not a Fireball Today!**
One random MiG has a Robustness of R2.

AFTERMATH

While the Soviet 135 IAP had several veteran crews, its overall experience level was not on par with the aces and experts sent on this mission by the IAF. The first aircraft engaged were the Mirages of 119 Squadron with Salmon hitting the first MiG quickly followed by Asher Snir; the pilot ejected and subsequently floated down in the middle of ensuing dogfight that lasted 4 minutes (interestingly he is remembered by several Israeli pilots who used him as a reference point during the fight). One Israeli pilot commented that there were "aircraft everywhere," and the Soviet pilots seemed to exceed the published performance figures for the MiG-21 in the fight. Soviet fighters, led by Capt. Kamencev, did manage to fire several AA-2 missiles with at least one from Capt. Kolesovlev or Puskarskiy managing to hit Asher Snir's Mirage as he was preoccupied with another MiG. Zuravlev also claimed a hit on another aircraft. Snir managed to nurse his aircraft back to Refidim. In the end, five Soviet aircraft were shot down (Snir, Salmon, Sela and Ben-Nun each claimed one) killing two Soviet pilots with three ejecting safely. The results were upsetting to the Soviets and shortly after the engagement Marshal Pavel S. Kurachov, Commander of Soviet Air Forces, visited Egypt to assess the engagement. He concluded that his pilots were too inexperienced and restricted Soviet units from engaging the Israelis unless victory could be assured. He also sent an additional MiG Regiment and squadron of Su-15 all-weather interceptors to bolster Egyptian defense. Interestingly, many in the EAF reacted with open delight when they heard of the Israeli ambush; for many years Soviet advisors had demeaned Egyptian pilots, overstated their own capabilities, and boasted of their skills.

SCENARIO SET-UP



ISRAEL AIR FORCE

Elements of 119 and 69 Squadrons

Decoy Flight (119 Squadron)

- 2x Mirage IIICJ w/ veteran (+2) crew (Avraham Salmon, Asher Snir)
- 2x Mirage IIICJ w/ skilled (+1) crew (Avi Gilad, Amos Amir)
(set up second in board areas E or F heading west, speed 5, TAL 5 MEDIUM-TOP CAB)

Hammer Element (69 Squadron)

- 1x F-4E w/ veteran (+2) crew (Aviem Sella & R. Reshef)
- 1x F-4E w/ skilled (+1) crew (Avihu Ben-Nun & Levi)
(enter from below turn 6-7, any speed, TAL 1 MEDIUM CAB)

VARIABLE RULES

- 1-2 **Old Stocks**
One F-4 has 2x AIM-7E instead of AIM-7E2.
- 3-5 **IAF at its Best**
Hammer Element may enter turn 5.
- 6-8 **Loaded with Shafrir**
Two random Mirage III have 2x Shafrir 2 IRM instead of AIM-9D.
- 9-10 **Burn to Get There**
One random F-4 has only two afterburner boxes.

"Peacetime Recon"



SETTING

Date: 13 June 1972, 0930 hours.

Location: North of Port Said Egypt, over the Mediterranean.

History: Reconnaissance in peacetime was one of Israel's top priorities. Near daybreak on 13 June a mission was launched to photograph the major Egyptian airbase at Mansourah. Mansourah was home to Egypt's best MiG-21 units including the 104th Air Brigade. Escort for the mission was provided by a mixed flight of Phantoms and Mirages of 201 and 101 Squadrons. The approach and photo pass over Mansourah was perfect with no issues but as the Israeli force exited the area and crossed "feet wet" over the Mediterranean they were attacked by several MiG-21s seeking revenge.

Conditions: Visibility: 20; Sun: Edge 2

CAB: MEDIUM-TOP and MEDIUM.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player receives an additional +1 VP for each F-4 destroyed.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 12 turns.

SCENARIO RULES

1. The **Mirage IIIs** carry 2x Shafir 2 plus two large fuel tanks. Drop tanks may not be released if flying at speed 5 or greater; while carrying the tanks they are *half-load*. They are flying in two pairs and do not all have to enter on the same turn.
2. The **F-4s** carry 2x AIM-7E2 and 4x AIM-9D.

EGYPTIAN AIR FORCE

Elements of 104 Air Brigade

- 1x MiG-21MF w/ veteran (+2) crew
- 1x MiG-21MF w/ skilled (+1) crew
- 2x MiG-21MF w/ green (+0) crew
(set up second in board area E or F at speed 8, TAL 5 MEDIUM CAB)

- 1x MiG-21MF w/ skilled (+1) aircrew
- 1x MiG-21MF w/ green (+0) aircrew
(enter from board edge 5 or 6 on turn d4+1, any speed, TAL 1 MEDIUM CAB)

VARIABLE RULES

- 1-4 **Inspired Pilot**
One random MiG aircrew fires guns at one skill level better but assumes ammunition depletion at one level worse.
- 5-6 **Inferior Maintenance**
One random MiG has no afterburner.
- 7-10 **Poor Vectoring**
The second group (of two) MiG-21s must enter from board edge 5 on turn seven.

SCENARIO RULES (continued)

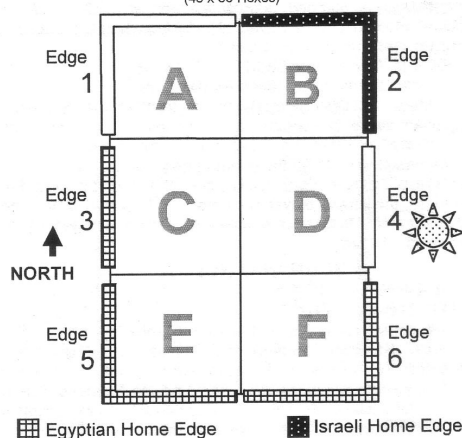
3. The **MiG-21s** carry 4x AA-2.
4. Prior to the start of play, the Israeli player rolls a d4; this is the turn of entry for the **F-4s**.
5. Prior to the start of play, the Egyptian player rolls a d4 and adds three; this is the turn of entry for the second group of **MiG-21s**.
6. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

As the MiG-21s closed on the trailing Mirages the Mirage element broke into the MiGs – the F-4s had no choice but to turn back and assist their comrades. Despite the relative skill of the Egyptian pilots, in the ensuing engagement the F-4s made good use of their new AIM-9D Sidewinders and managed to claim two MiG-21s with no losses.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAELI AIR FORCE

Elements of 201 Squadron and 101 Squadron

201 Element

- 1x F-4E w/ veteran (+2) crew (Eitan Peled & Yoram Romem)
- 1x F-4E w/ skilled (+1) crew (Adi Benaya & Yosef Lev-Ari)
(enter turn d4 from the north board edge, any speed, TAL 6 MEDIUM CAB)

101 Element

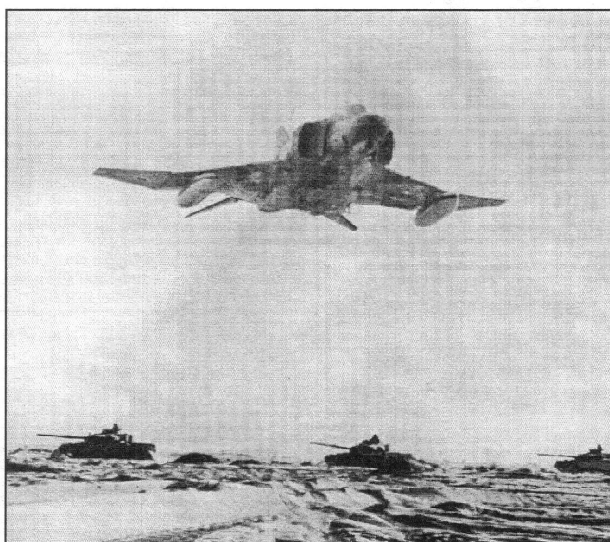
- 1x Mirage IIICJ w/ veteran (+2) crew (Israel Baharav)
- 1x Mirage IIICJ w/ skilled (+1) crew
(set up first in board area C or D heading north, speed 5, TAL 4 MEDIUM CAB)

VARIABLE RULES

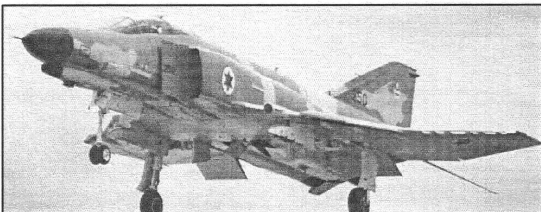
- 1-2 **Built Tough**
One random Israeli aircraft has its robustness level increased by one.
- 3-5 **Israeli Intelligence Operations**
The second group (of two) MiG-21s must enter from the south edge of board edge 5 on turn 8. Only inform the Egyptian player of this rule when the second group is placed on the board.
- 6-7 **Low Fuel**
The **Mirage IIIs** have two fewer Afterburner boxes.
- 8-10 **Old Stocks**
One F-4 has 2x AIM-7E instead of AIM-7E2.

YOM KIPPUR WAR: WAR OF REVENGE

Scenarios



Scramble at Ophir



SETTING

Date: 6 October 1973, 1430 hours.

Location: Over Ophir Air Base, Sinai, Israeli Territory.

History: While there was some strategic warning of pending Arab attack on Israel, many Israeli forces at the tactical and operational levels were caught by surprise on the afternoon of Yom Kippur 1973. The Arab attack started at 1400 with a deliberate Suez Canal crossing and coordinated air attacks on dozens of Israeli targets. Over two hundred EAF aircraft penetrated the Sinai, attacking airfields, artillery, SAM and other targets. At Ophir Air Base (the Egyptian name was Ras Nasrani), near Sharm el-Sheikh at the southern tip of the Sinai, two F-4Es were on alert in case of hostilities. As an EAF attack force crossed the Red Sea and neared Ophir, klaxons across the base began to sound; however Ground Control did not give the order to launch and intercept. Ignoring GCI, Amir Nachumi (the flight leader) ordered his flight to immediately scramble and intercept the attacking force.

Conditions: Visibility: 16; Sun: Edge 6

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +2 VPs for each bomb hit on the Airfield.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 12 turns.

SCENARIO RULES

1. The F-4s carry 2x AIM-7E2 and 4x AIM-9D missiles and have two additional afterburner boxes (they are fully fueled).
2. The F-4s have upgraded wings; use "C" Turn and Maneuver Charts.
3. The MiG-17s carry light bomb loads and are considered full-load. Any air-to-air fire from the MiG-17s must take a minus two (-2) to-hit die roll penalty.

EGYPTIAN AIR FORCE

Elements of 201 Squadron and 25 Squadron

Lead Flight (201 Squadron)

1x MiG-17F w/ skilled (+1) crew

3x MiG-17F w/ green (+0) crew

(set up second in board area E, speed 4, TAL 1 SLOW CAB)

Trail Flight (201 Squadron)

1x MiG-17F w/ skilled (+1) crew

3x MiG-17F w/ green (+0) crew

(enter turn 1 from board edge 5, speed 4, TAL 1 SLOW CAB)

Attack Element

1x MiG-21MF w/ skilled (+1) aircrew (Ahmad Wafai)

1x MiG-21MF w/ green (+0) aircrew

(set up second in board area E, speed 5, TAL 3 SLOW CAB)

Cover Element (25 Squadron)

1x MiG-21MF w/ skilled (+1) aircrew

1x MiG-21MF w/ green (+0) aircrew (Dia el-Hefnawy)

(enter turn 3 from board edge 5, speed 5, TAL 2 LOW CAB)

VARIABLE RULES

- 1-2 **Veteran of the 6-Day War**
Replace the green (+0) Attack Element MiG-21 crew with a skilled (+1) crew.
- 3-5 **Low Flying**
Any MiG-17 may declare ultra-low flying at the start of any turn when at TAL 1, S. LOW CAB. Any fire against it that turn receives an additional minus one (-1) to-hit modifier; at turn end it must pass an aircrew check or it hits the ground and is destroyed.
- 6-7 **Where is 25 Squadron?**
The Cover Element enters as above but on turn 3+d4.
- 8-10 **Intense Training**
The Lead Flight receives a plus one (+1) die roll modifier for each bomb attack on the Airfield.

SCENARIO RULES (continued)

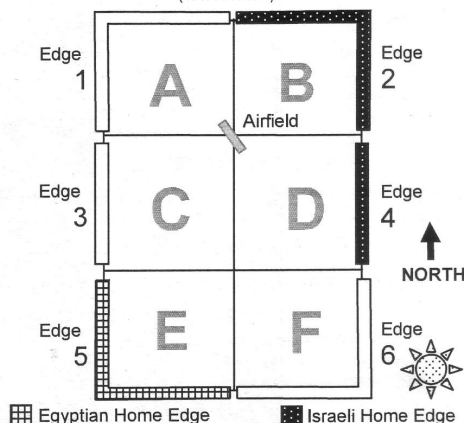
4. The **Attack Element MiG-21s** carry Multiple-Rocket Pods and are considered full-load. The Multiple-Rocket Pods may be fired at air targets and are treated as one shot with 4 LVHC.
5. The **Cover Element MiG-21s** carry 4x AA-2.
6. Any **MiG** not in board area E, or not exited off board edge 5 by game end, is treated as if it exited off an unfriendly board edge.
7. Roll one d6 for the **HAWK Battery** at the start of the game; on 1-4 the battery may not fire for the entire game, on 5-6 it may fire normally, up to 1 missile per turn. It is destroyed by one hit.
8. The **AAA Battery** is a point target, is not radar controlled, and are destroyed with one hit.
9. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

Nachumi and his wingman Daniel Shaki rocketed off the tarmac with full afterburners in such excitement that Nachumi's back-seater Yossi Yavin (a veteran of several air combats) had to remind the skilled but untested Nachumi to jettison his drop tanks. Seconds after take-off Nachumi and Yavin attempted to lock-on to the incoming MiGs for a Sparrow missile shot but were unable to obtain lock as the MiGs were now very close and at extremely low altitude. Seconds later, the two were immersed in a swirling dogfight with several MiG-17s. With Yavin constantly helping with situational awareness, Nachumi proceeded to shoot down two MiG-17s, and then one engine flamed out at 1,000 feet. He calmly restarted the engine and engaged and destroyed another MiG-17. Finally able to see Shaki's aircraft Nachumi pursued and destroyed a fourth MiG-17. Col. Ahmad Wafai, EAF also participated in this attack flying his MiG-21MF armed with rocket-pods; he succeeded in attacking the airfield then exited low over the Red Sea. At the end of the action, Nachumi and Yavin would claim four MiG-17s and Shaki and Regev would claim two MiG-17s and one MiG-21. Nachumi received Israel's second highest decoration for the action over Ophir, and Yavin became the first backseater Ace.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 107 Squadron

1x F-4E w/ veteran (+2) crew (Amir Nachumi & Yossi Yavin)

1x F-4E w/ veteran (+2) crew (Daniel Shaki & David Regev)

(set up first within 2 hexes of the southeast end of the airfield heading southeast, speed 1, TAL 1 SURFACE LOW CAB)

1x Light AAA Battery

(set up first within 10 hexes of one of the airfield)

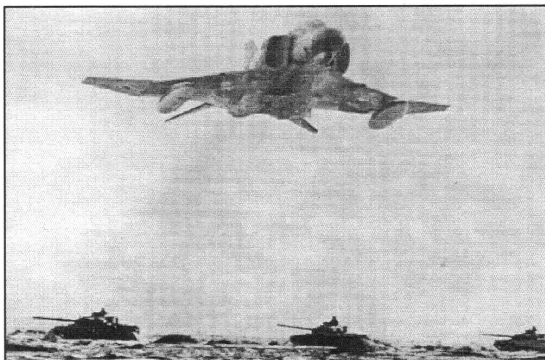
1x **HAWK SAM Battery** w/ green (+0) crew and 3 missiles.

(set up first within 5 hexes of one of the airfield)

VARIABLE RULES

- 1-5 **Built Tough**
One random Israeli aircraft may ignore the first damage result against it.
- 6-10 **Expert Marksman**
Nachumi may ignore his first failed ammunition depletion roll.

Phantoms Over the Canal



SETTING

Date: 8 October 1973, 0930 hours.

Location: East of the Suez Canal, Egypt.

History: The rushed implementation of aggressive counter-air attacks by the IAF on 7 October proved a failure and cost several aircraft and crews. On 8 October, the IAF focused a large number of sorties on close-air-support, counter-artillery and counter-bridge missions. One such mission, launched early in the day included 201 Squadron F-4s who were to dive-bomb one of the many new Egyptian pontoon bridges over the Suez Canal. Egyptian air activity was also heavy on 8 October and included an attack by MiG-17s on the IDF's Southern Command Headquarters. The two forces would clash over the canal.

Conditions: *Visibility:* 16; *Sun:* Edge 5

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +3 VPs for each **two** MiG-17s on the board at the end of the game and +4 VPs if Eitan Ben-Eliyahu is captured (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +3 VPs for each bomb hit on the Pontoon Bridge.

Game Length: 12 turns.

SCENARIO RULES

1. The MiG-17s carry no missiles and start with "first fire" box checked.
2. Any F-4 on the board at the end of the game must roll as if it exited off a neutral board edge (they are short on fuel).

EGYPTIAN AIR FORCE

Lead Element

1x MiG-17F w/ *skilled* (+1) crew

1x MiG-17F w/ *green* (+0) crew

(enter turn 2 from the east board edge heading west, speed 5, TAL 1 SURFACE LOW CAB)

Trail Flight

1x MiG-17F w/ *skilled* (+1) crew

3x MiG-17F w/ *green* (+0) crew

(enter turn 2+d4 from the east board edge heading west, speed 5, TAL 1 SURFACE LOW CAB)

1x Medium AAA Battery -and- 1x Light AAA Battery
(set up first anywhere west of the Suez Canal)

1x SA-3B SAM Battery w/ *green* (+0) crew and 8 missiles
(set up first within 10 hexes of the west board edge)

VARIABLE RULES

- 1-3 **Veteran of the 6-Day War**
Replace the *skilled* (+1) Lead Element MiG-17 crew with a *veteran* (+2) crew.
- 4-5 **Soviet Re-deployment**
Replace the SA-3B Battery with a SA-6 Battery with a *skilled* (+1) crew and 6 missiles.
- 6-8 **Less fuel than we thought**
At the start of turn 1 or 2, inform the Israeli player that each F-4 only has one Afterburner box.
- 9-10 **Soviet ZSU**
The Egyptian player may place one Hidden ZSU Light AAA Battery anywhere in areas A, B, C or D. It is a radar-detects Light AAA gun, a point target and is destroyed by 2 bomb hits.

SCENARIO RULES (continued)

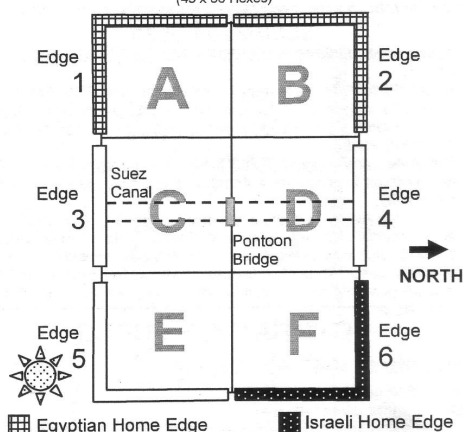
3. The F-4s carry *heavy* bomb loads, one ECM Pod (-1), 2x AIM-7E2 and 1x AIM-9D and are considered *full-load*. Each F-4 has only two afterburner boxes. The ECM Pod provides no die roll modifier (+0) against the SA-6 Battery.
4. The SA-3/SA-6 is destroyed with one hit and may fire 1 or 2 missiles simultaneously at one target.
5. The AAA Batteries are point targets, are not radar controlled, and are destroyed with one hit.
6. The Pontoon Bridge is a point target.
7. Whenever an Egyptian aircraft is within 6 hexes of an enemy aircraft targeted by AAA fire and within engagement parameters, roll a d6 before firing; on 1-2 the AAA must fire on the friendly target.
8. Exit by climb is an unfriendly board edge exit for both sides.
9. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

Immediately after attacking the Pontoon Bridge, 201 Squadron former deputy CO Eitan Ben-Eliyahu and his flight intercepted the returning Egyptian MiG-17s. Ben-Eliyahu was the first to score downing a MiG-17; Ben-Eliyahu followed it briefly as it climbed but the pilot had already ejected. Roni Holdai and Aran Cohen, running low on fuel, were soon tailed by two MiG-17s; evading them with a high yo-yo the two managed to engage one of their pursuers and down it with sustained gunfire. Holdai and Cohen were credited with a second kill and the squadron was credited with another after one of the MiGs hit the ground evading. Interestingly, the Israeli flight in this action contained two future city mayors; Roni Holdai later became mayor of Tel Aviv and Beni Kiryati became mayor of Tiberius.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

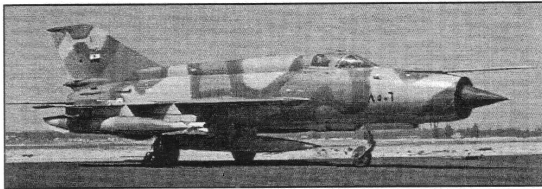
Elements of 201 Squadron

- 1x F-4E w/ *veteran* (+2) crew (Eitan Ben-Eliyahu & Paltiel Barak)
 2x F-4E w/ *skilled* (+1) crew (Roni Holdai & Aran Cohen, Eli Zohar & Beni Kiryati)
 1x F-4E w/ *green* (+0) crew
 (set up second in board area E or F heading west, speed 4, TAL 2 LOW CAB)

VARIABLE RULES

- 1-3 **Old Stocks for the Bombers**
One F-4 has 2x AIM-7E instead of AIM-7E2.
- 4-6 **Roni's Lucky Day**
Holdai may ignore his first failed ammunition depletion roll.
- 7-9 **Ground Attack Skill**
One random F-4 receives a plus one (+1) to-hit modifier when making bomb attacks.
- 10 **Those New Slats Really Help!**
Randomly select one F-4, if this aircraft has been upgraded with the new wing slat kit; it uses the "C" Turn and Maneuver Charts.

Crab Flight



SETTING

Date: 11 October 1973, 1030 hours.

Location: East of the Banha Communications Exchange, Egypt.

History: In the wake of a successful Syrian surface-to-surface missile (FROG) attack on Ramat David Air Base the night of 8/9 October, on the morning of 9 October, the hard-used F-4 Squadrons started flying "Strategic" deep strike missions in addition to tactical operations. These attacks targeted "high value" targets including military headquarters, bridges, power stations, refineries, and communications hubs. While most of these missions were focused on Syria, on 11 October one such mission targeted the Banha Communications Exchange (north of Cairo). A short time after "Young Lion" flight successfully hit the target with bombs and turned for home, covering "Crab" flight was attacked by undetected MiGs.

Conditions: Visibility: 16; Sun: Edge 5

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VPs if Eitan Ben-Elizyahu is captured (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 12 turns.

SCENARIO RULES

1. The **F-4s** carry 2x AIM-7E2, and 4x AIM-9D. Each starts with two afterburner boxes.
2. The **MiG-21s** carry 4x AA-2 and start the game as Hidden Aircraft.
3. The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit. They are considered Hidden until fired.

EGYPTIAN AIR FORCE

Attack Element

2x MiG-21MF w/ skilled (+1) crew
(set up third in board area A or B at least 6 hexes from any Israeli aircraft, any speed, TAL 1 LOW CAB)

Cover Element

1x MiG-21MF w/ skilled (+1) crew
1x MiG-21MF w/ green (+0) crew
(enter turn 2 from board edge 1 or 2 -or- turn 3 from board edge 3 or 4, any speed, TAL 1 LOW CAB)

Reserve Element

1x MiG-21MF w/ skilled (+1) crew
1x MiG-21MF w/ green (+0) crew
(enter turn 3 from board edge 3 -or- turn 5 from board edge 5, any speed, TAL 1 LOW CAB)

2x Light AAA Batteries
(set up first anywhere on the board)

VARIABLE RULES

- 1-3 **Six Days of Combat**
Replace a skilled (+1) Attack Element crew with a veteran (+2) crew.
- 4-5 **Open Formation**
Set up one Attack Element MiG-21 in board areas A and B.
- 6-8 **Extra AAA**
Add one additional hidden Light AAA Battery.
- 9-10 **Lucky Engine Hit**
The first F-4 that sustains Engine Damage must reduce speed by -5 rather than -3 and must take one Lucky Hit.

SCENARIO RULES (continued)

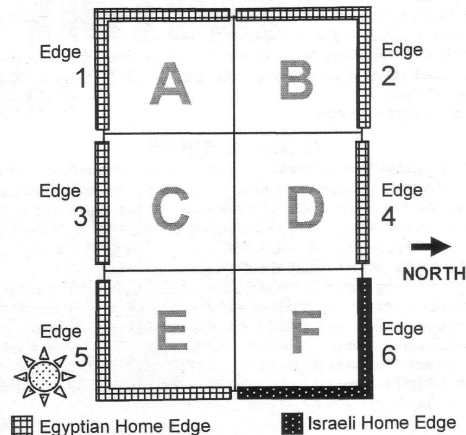
4. Any F-4 not exited off board edge 6 by game end is treated as if it exited off an unfriendly board edge.
5. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

The Egyptian intercept was perfect in terms of timing and location. Undetected, several MiGs attacked Crab Flight with deadly results. Crab 2 (Ophir and Cohen) was attacked with both being killed; Crab 4 (Hayon and Arad) was hit and both were forced to bail-out and were taken prisoner. Also in the engagement, a MiG-21 engaged by Ben-Elizyahu ejected resulting in one kill for 201 Squadron. The end result was a heavy blow for 201 Squadron with two Phantoms lost in exchange for one MiG-21.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 201 Squadron

Crab 1 and 2

1x F-4E w/ veteran (+2) crew (Eitan Ben-Elizyahu & Amiram Talmon)
1x F-4E w/ green (+0) crew (Yonatan Ophir & Aran Cohen)
(set up second in within 5 hexes of the center of the board heading east, speed 5, TAL 4 LOW CAB)

Crab 3 and 4

1x F-4E w/ skilled (+1) crew
1x F-4E w/ green (+0) crew (Kobi Hayon & Uri Arad)
(set up second in within 10 hexes of the center of the board, behind and to the right/left of Crab 1 and 2, heading east, speed 5, TAL 4 LOW CAB)

VARIABLE RULES

- 1-3 **Quality Training for Kobi and Uri**
Replace the green (+0) Crab 3 and 4 crew with a skilled (+1) crew.
- 4-6 **Built Tough**
One random Israeli aircraft may ignore the first damage result against it.
- 7-9 **Situational Awareness**
The Attack Element and Cover Element are not Hidden Aircraft (inform the Egyptian player just prior to play but after set up).
- 10 **Those New Slats Really Help!**
Randomly select one F-4, if this aircraft has been upgraded with the new wing slat kit; it uses the "C" Turn and Maneuver Charts.

Brave Sons of the Pharaoh



SETTING

Date: 11 October 1973, 1100 hours.

Location: West of the Suez Canal, Egypt.

History: Egyptian ground control identified an inbound flight of Israeli jets moving to attack an Egyptian convoy headed for the Suez Canal. MiGs were vectored to attack from the south.

Conditions: *Visibility:* 16; *Sun:* Edge 2

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VPs if Avraham Salmon is captured (beyond Campaign VP rules).

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +1 VP for each bomb hit on the **Convoy**.

Game Length: No limit.

SCENARIO RULES

1. An Egyptian truck **Convoy** (and its SAM detachment) should be positioned as shown on the map; it is six hexes long. There are two tall hills (each about 6 hexes long and two hexes wide) that block line-of-sight to any aircraft flying at TAL 1 in the SURFACE LOW CAB. Aircraft at TAL 1 SURFACE LOW CAB may fly over these hills with no threat of collision.
2. The **Convoy** has one portable SA-7 SAM Battery. The team is set up by the Egyptian player within two hexes of any part of the convoy and is not placed on the board until it fires. The detachment carries from 1-4 missiles (roll a d4 to determine number). The SAM Battery may only fire one missile per turn.
3. **MiG-21MFs** carry 4x AA-2; **MiG-21PFMs** carry 2x AA-2 and are each equipped with a gun pod giving FF: 2x MC.

EGYPTIAN AIR FORCE

Elements of 45 and 41 Squadrons

45 Squadron Element (Mansura)

1x MiG-21MF w/ veteran (+2) crew (m. el-Malt)

1x MiG-21MF w/ green (+0) crew

(set up second within 4 hexes of the south board edge at any speed, TAL 3 SURFACE LOW CAB)

41 Squadron Element (Tanta)

1x MiG-21PFM w/ skilled (+1) crew

1x MiG-21PFM w/ green (+0) crew

(set up second within 4 hexes of the south board edge at any speed, TAL 3 SURFACE LOW CAB)

Convoy with 1x SA-7 Battery with green (+0) crew and 1-4 missiles (set up first along a west-east axis in the middle of the board as shown)

1x **Light AAA Battery**

(set up first anywhere within 5 hexes of the convoy)

VARIABLE RULES

- 1-3 **Not Enough to Go Around**
One MiG-21PFM is not equipped with guns.
- 4-6 **ZSU Cover!**
The Egyptian player may place one Hidden ZSU Light AAA Battery anywhere on the board in place of the **Light AAA Battery**. It is a radar-directed Light AAA gun and is placed on the board only after it fires.
- 7-10 **Poor Vectoring**
The MiGs must set up within 4 hexes of board edge 1.

SCENARIO RULES (continued)

4. **Neshers** carry 2x Shafrir 2 IRM.
5. The **A-4s** carry a medium bomb load and are considered full-load. Any air-to-air fire from the **A-4s** must take a minus two (-2) to-hit die roll penalty. Treat the **A-4s** as "fighters" for resolving Move Group order.
6. The **A-4s** may bomb the Egyptian convoy by flying over any of it.
7. The **Light AAA Battery** is a point target, is not radar controlled, and is destroyed with one hit.

AFTERMATH

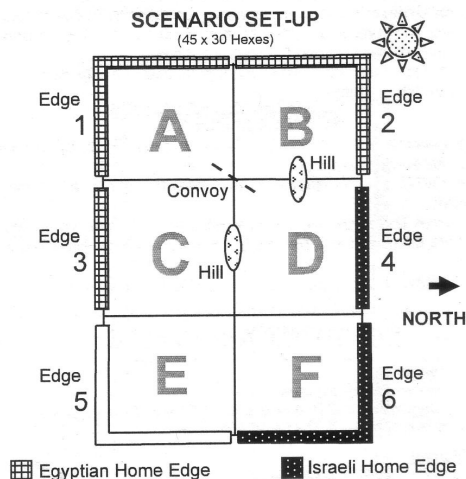
The Israeli fighter escorts were from the veteran 101 Squadron (a heterogeneous Neshet & Mirage unit in 1973). In the actual engagement, two MiGs were quickly lost to missile and gun fire (from Neeman and Salmon respectively); toward the end of the engagement, el-Malt was able to down a Neshet with MiG-21 gunfire while an A-4 was damaged by an Egyptian SA-7 surface-to-air missile. Avraham Salmon would end his career with 18 kills, and would go on to be Israel's second highest scoring ace.

NOTES

This is a revised version of the scenario that is in the **CY6-JA** rules and is a great scenario for four to six players; six players is optimal as it allows each player to run two aircraft. When breaking up the Israeli aircraft, make sure players split the A-4s and Mirages rather than letting one player play all of each.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 101 Squadron

1x **Neshet** w/ veteran (+2) crew (Avraham Salmon)

3x **Neshet** w/ skilled (+1) crew (incl. Raanan Neeman)

(set up first within 10 hexes of board edge 4, speed 5, TAL 5 LOW CAB)

4x **A-4N Skyhawk** w/ skilled (+1) crew

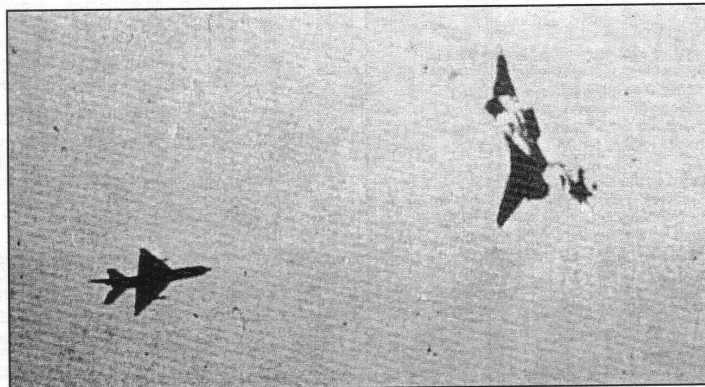
(set up first within 5 hexes of the northeast corner of the board speed 4, TAL 3 SURFACE LOW CAB)

VARIABLE RULES

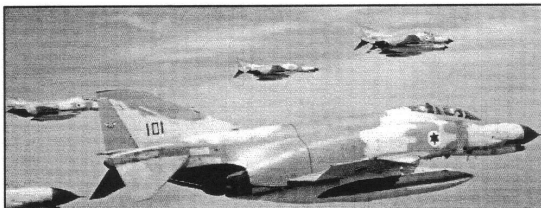
- 1-3 **Veteran Skyhawk Pilot**
Change one skilled (+1) **A-4** crew to veteran (+2).
- 4-6 **Salmon the Ace**
Replace the veteran (+2) **Neshet** crew with an ace (+3) crew.
- 7-8 **The New Guy**
Change one skilled (+1) **Neshet** crew to green (+0).
- 9-10 **A-4N Weapon Delivery System Upgrade**
The **A-4s** receive a plus one (+1) to-hit modifier when making bomb attacks.

YOM KIPPUR WAR: BATTLE FOR VICTORY

Scenarios



Mansourah: Deep Strike



SETTING

Date: 14 October 1973, 1535 hours.

Location: Over Mansourah Airfield, Egypt.

History: By 14 October (the ninth day of war) the Israeli Air Force decided to adopt a strategy that included deep-strike missions to attack Egyptian airbases. Late in the day Commanding Officer Eitan Ben-Eliyahu led No.201 Squadron in a strike on Mansourah air base in hopes of clearing a corridor for a larger, follow-on attack on Tanta air base by 107 and 119 Squadrons. Mansourah was home to several Egyptian Air Force MiG-21 units. As Ben-Eliyahu's F-4E passed over the target, his command was jumped by defending MiGs.

Conditions: *Visibility:* 12 (Haze); *Sun:* Edge 3

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +4 VP if the airfield receives 1-3 bomb hits or +6 VP if it is not hit by bombs by the end of the game.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +2 VP for each bomb hit on the Airfield.

Game Length: 12 turns (see Scenario Rules for Israeli aircraft).

SCENARIO RULES

- Crab Flight F-4s** carry *Light* bomb loads (with Cluster-bombs, +1 to surface attack against AAA/SAMs), one ECM Pod (-1), 2x AIM-7E2, and 4x AIM-9D and are considered *half-load*.
- Dog Flight F-4s** carry *Heavy* bomb loads, one ECM Pod (-1), 2x AIM-7E2 and 1x AIM-9D and are considered *full-load*. **Dog Flight F-4s** are treated as "bombers" in Move Group order until they release their bomb loads.
- Mansourah Airfield is placed in the center of the board. The airfield may not be damaged by cluster-bomb attacks. The Egyptian player may place six **Barrage Balloons** between 2-4 hexes from the airfield. If an aircraft enters or passes through a **Barrage Balloon** hex at S. LOW CAB it must pass an aircrew check; if failed roll lucky hits as for collision.

EGYPTIAN AIR FORCE

Elements of 104th Air Brigade

1x MiG-21MF w/ *veteran* (+2) crew (Nasr Mousa)

1x MiG-21MF w/ *green* (+0) crew

(enter turn 1 from board edge 3 or 4, any speed, TAL 3 SURFACE LOW CAB)

1x MiG-21MF w/ *skilled* (+1) crew

1x MiG-21MF w/ *green* (+0) crew

(enter turn 2 from board edge 3 or 4, any speed, TAL 3 SURFACE LOW CAB)

1x MiG-21MF w/ *skilled* (+1) crew

1x MiG-21MF w/ *green* (+0) crew

(enter turn 4 from board edge 1, 3 or 4, any speed, TAL 3 SURFACE LOW CAB)

1x SA-3B Battery w/ *green* (+0) crew and d4+4 missiles

(set up first anywhere greater than 5 hexes from any board edge)

4x Light AAA Batteries

(set up first within 5 hexes of the airfield)

VARIABLE RULES

1-5 **Soviet Advisors**

Replace the *green* (+0) SA-3B crew with a *skilled* (+1) crew.

6-8 **Open Formation**

The first two MiGs (w/ *veteran* +2 and *green* (+0) crews) may set up hidden on turn 1 in board area A.

9-10 **Radar Directed Fire**

One Light AAA Battery is radar-directed.

SCENARIO RULES (continued)

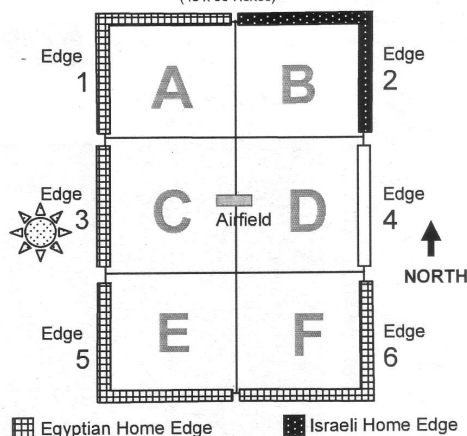
- The **MiG-21s** carry 4x AA-2 and start the game as *Hidden* Aircraft.
- The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.
- The **SA-3** is destroyed with one hit and may fire 1 or 2 missiles simultaneously at one target. It is *hidden* until fired.
- Any F-4 not in board area B, or not exited off board edge 2 by game end, is treated as if it exited off an *unfriendly* board edge.
- Exit by climb is an unfriendly board edge exit for both sides.
- Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

At least 6 MiG-21s rapidly engaged the attacking F-4s in a swirling dogfight. As the F-4s tried to complete their mission and depart, MiGs pursued forcing many of the F-4s (including Ben Eliyahu's) to commit to defensive maneuvering. As a result of the dogfighting, many of the attacking F-4s were forced to make emergency landings, short of fuel to reach their home airbase; the F-4 of Eitan Peled was forced to land at El-Arish in Sinai and one aircraft even landed at a small landing strip, just behind the front lines. MiG-21 pilot Nasr Mousa claimed one F-4 destroyed in the engagement; after the war he became Air Vice Marshal of the EAF.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 201 Squadron

Crab Flight

1x F-4E w/ *veteran* (+2) crew (Eitan Ben-Eliyahu & Amiram Talmon)

1x F-4E w/ *skilled* (+1) crew

(set up second in board areas E or F heading south, speed 5, TAL 4 SURFACE LOW CAB)

Dog Flight

1x F-4E w/ *veteran* (+2) crew (Eitan Peled & Yehoar Gal)

3x F-4E w/ *skilled* (+1) crew (incl. Eli Zohar & Yitzhak Baram)

2x F-4E w/ *green* (+0) crew (incl. Guri Palter)

(enter turn 1 from board edge 2, speed 5, TAL 4 LOW CAB)

VARIABLE RULES

1-4 **Low Fuel**

Randomly select two F-4s, they have only 2 afterburner boxes.

5-6 **Jamming Support**

Any SA-3 fire against Israeli aircraft must take a minus one (-1) to-hit die roll penalty.

7-8 **Lucky Engine Hit**

Randomly select one F-4, if this aircraft sustains Engine Damage, it must reduce speed by -5 rather than -3.

9-10 **Those New Slats Really Help!**

Randomly select one F-4, this aircraft has been upgraded with the new wing slat kit; it uses the "C" Turn and Maneuver Charts.

Target: Tanta



Amir Nachumi

SETTING

Date: 14 October 1973, 1545 hours.

Location: North of Tanta Air Base, near the coast, Egypt.

History: Both Mansourah and Tanta air bases were targeted on 14 October by the IAF F-4 squadrons as part of a follow-on plan to dampen EAF fighter and fighter-bomber activity over the Suez Canal. Shortly after 201 Squadron attacked Mansourah, 107 Squadron moved to attack Tanta, following up as the main effort after 119 Squadron's attack. By the time 107 Squadron was closing on target with 12 F-4Es, EAF MiGs were swarming in the area of the two airbases and were fully alerted. Due to a last minute route change, confusion was increased as the inbound 107 Squadron met outbound 119 Squadron head on.

Conditions: Visibility: 12 (Haze); Sun: Edge 5

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +4 VPs for each bomb-loaded F-4 that exits the south board edge.

Game Length: 11 turns (see Scenario Rules for Israeli aircraft).

SCENARIO RULES

1. The **F-4s** carry *heavy* bomb loads, 2x AIM-7E2 and 1x AIM-9D and are considered *full-load*.
2. The **F-4s** have upgraded wings; use "C" Turn and Maneuver Charts.
3. **MiG-21s** carry 2x AA-2 and are each equipped with a gun pod giving FF: 2x MC.
4. The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit. They are considered *Hidden* until fired.
5. If the Egyptians roll **Spirit of the Great Helmsman** variable rule treat the Korean crew as Soviet for victory point purposes.

EGYPTIAN AIR FORCE

Elements of 41 Squadron

2x **MiG-21PFM** w/ *skilled* (+1) crew

(set up third in board area A or B or enter turn 2 from edge 3 or 4, any speed, TAL 1-3 SURFACE LOW CAB)

2x **Light AAA Batteries**

(set up first anywhere on the board)

VARIABLE RULES

- 1-2 **Six Days of Combat**
Replace a *skilled* (+1) **Attack Element** crew with a *veteran* (+2) crew.
- 3-4 **Poor Coordination**
One **MiG-21** must enter turn 1 from board edge 1, 2, 3 or 4 randomly determined
- 5-7 **Poor Fuel Management**
One **MiG** has only 1 afterburner box.
- 8-10 **Spirit of the Great Helmsman - North Koreans**
The **MiG-21s** are flown by North Korean pilots with untested skills. After set up but prior to play, the Egyptian player rolls one d6 for each **MiG-21** with the resulting crew skills:
roll = 1: both are *green* (+0) crew
roll = 2: one *skilled* (+1) crew and one *green* (+0) crew
roll = 3-4: both are *skilled* (+1) crew
roll = 5-6: one *veteran* (+2) crew and one *skilled* (+1) crew

SCENARIO RULES (continued)

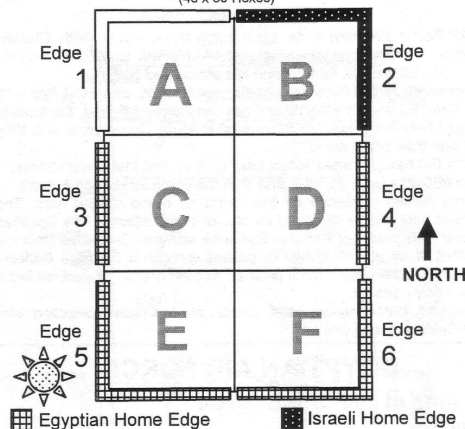
6. Treat the south board edge as "Friendly" for the Israelis. Any **F-4** not exited off the south board edge or board edge 2 by game end is treated as if it exited off an *unfriendly* board edge.
7. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

After passing close by the outbound 119 Squadron, from the rear of the formation, Amir Nachumi noted as pair after pair of F-4s jettisoning their bombs and maneuvered against attacking MiGs. Soon, two MiG-21s closed on Nachumi and his wingman Meir Most, with one MiG targeting each F-4. A MiG made a rapid quartering gun pass at Nachumi's F-4 while the other MiG fired its cannon from 400m behind Most's aircraft. The F-4s broke formation as Nachumi jettisoned his bombs. Nachumi was able to maneuver behind the MiG threatening Most. Launching an AIM-9D from approximately 1200m, Nachumi hit the enemy MiG, forcing the pilot to eject. Separated by the engagement, Nachumi and Most rendezvoused at a pre agreed position near the Egyptian coast but soon after were fired upon by missiles from additional MiGs. Extremely low on fuel, Nachumi fought a vertical duel with a pursuing MiG, forcing it to crash into the sea. Nachumi would rack-up a total of 6 kills in the Yom Kippur War and another 7 flying F-16s. During the Yom Kippur War, pilots of many nationalities flew for Egypt; some reports even featured North Korean aircrews.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 107 Squadron

1x **F-4E** w/ *veteran* (+2) crew (Amir Nachumi & Yossi Yavin)

1x **F-4E** w/ *skilled* (+1) crew (Meir Most)

(set up second within 6 hexes of the intersection of board areas ABCD, heading south, speed 5, TAL 1 SURFACE LOW CAB)

VARIABLE RULES

- 1-3 **Bugs on the windscreen**
If an **F-4** is firing guns directly to its front (down a hex row) it must take a minus-one (-1) die roll penalty due to obstructed windscreen (historically Nachumi was worried about this effect).
- 4-5 **Built Tough**
One random Israeli aircraft may add one (+1) to its first robustness roll.
- 6-8 **Situational Awareness**
Both **F-4s** may start the game having already jettisoned their bombs at the option of the Israeli player.
- 9-10 **Yossi Yavin - Ace Backseater**
The *veteran* (+2) **F-4** may add an additional plus-one (+1) to any awareness or crew check.

Back to Tanta



SETTING

Date: 15 October 1973, 1245 hours.

Location: Over Tanta Airfield, Egypt.

History: While some early morning attacks were directed at Syria by the IAF F-4 force, the main effort for 15 October was focused on Egyptian Air Bases. To date, results had been poor with few Egyptian aircraft caught on the ground and with attacking forces encountering stiff defenses. The focus for the day would be three air bases, Kotamiya, Shubrakit and finally, Tanta (for the second day in a row). 119 Squadron would lead the attack, closely followed by 201 Squadron.

Conditions: *Visibility:* 16; *Sun:* Edge 5

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. Egyptian player is awarded an additional +6 VP if the airfield is not hit by any bombs by the end of the game.

Israeli Orders: Achieve more victory points than the opponent. The Israeli player is awarded an additional +2 VP for each bomb hit on the Airfield.

Game Length: 15 turns (see Scenario Rules for Israeli aircraft).

SCENARIO RULES

1. **CAP/SEAD Element F-4s** carry *Light* bomb loads (with Cluster bombs, +1 to surface attack against AAA/SAMs), one ECM Pod (-1), 2x AIM-7E2, and 4x AIM-9D and are considered *half-load*.
2. **Locksmith Flight F-4s** carry *heavy* bomb loads, one ECM Pod (-1), 2x AIM-7E2 and 1x AIM-9D and are considered *full-load*. **Locksmith Flight F-4s** are treated as "bombers" in Move Group order until they release their bomb loads.
3. Snir's F-4 has upgraded wings; use "C" Turn and Maneuver Charts.
4. The MiG-21s carry 4x AA-2 and start the game as *Hidden Aircraft*.
5. Tanta Airfield is placed on the board as noted on the map. The airfield may not be damaged by cluster-bomb attacks. The Egyptian player may place six **Barrage Balloons** between 2-4 hexes from the airfield. If an aircraft enters or passes through a **Barrage Balloon** hex at S. LOW CAB it must pass an aircrew check; if failed roll lucky hits as for collision.
6. The **AAA Batteries** are point targets, are not radar controlled, and are destroyed with one hit.

EGYPTIAN AIR FORCE

Elements of 104th Air Brigade

Lead Element

1x MiG-21MF w/ *veteran* (+2) crew (East German Otto Abel)

1x MiG-21MF w/ *green* (+0) crew

(enter turn 2 from the south board edge, any speed, TAL 3 SURFACE LOW CAB)

Trail Element

1x MiG-21MF w/ *skilled* (+1) crew

1x MiG-21MF w/ *green* (+0) crew

(enter turn 3 or 4 from board edge 3 or 5, any speed, TAL 3 SURFACE LOW CAB)

1x SA-3B SAM Battery w/ *green* (+0) crew and 8 missiles
(set up first in board area C, D, E or F)

1x Off-board SA-2D Battery w/ *green* (+0) crew and 6 missiles
(set up off-board edge 3, 5 or 6)

4x Light AAA Batteries

(set up first within 7 hexes of the airfield)

VARIABLE RULES

- 1-2 **Abel's not Here!**
Replace the *veteran* (+2) **Lead Element** crew with a *skilled* (+1) crew.
- 3-5 **Open Formation**
The **Trail Element** must enter on turn 5.
- 6-10 **Superior Air Defense Training**
Replace the *green* (+0) SA-3B crew with a *skilled* (+1) crew.

SCENARIO RULES (continued)

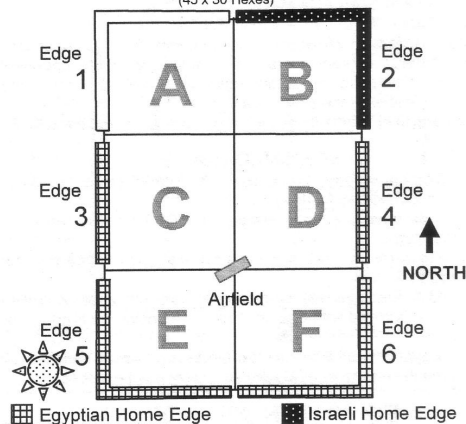
7. The SA-3 is destroyed with one hit and may fire 1 or 2 missiles simultaneously at one target.
8. Any F-4 not in board area B, or not exited off board edge 2 by game end, is treated as if it exited off an *unfriendly* board edge.
9. Exit by climb is an unfriendly board edge exit for both sides.
10. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

Asher Snir would lead the 119 Squadron formation into the defenses of Tanta. The plan was to have the CAP/SEAD (Suppression of Air Defense) elements in the lead, followed by the bomber F-4s (four aircraft, led by Snir). Just moments before the squadron reached its pop-up point north of the airfield, one of the trailing F-4s, "Locksmith 2" was destroyed by a SA-2 SAM (reports vary, it also could have been hit by an air-to-air missile). The pilot, Binyamin Livne ejected and was captured, the back-seater Rahamim Sofer was killed. Overwhelmed by intense and prepared AAA and SAMs the CAP/SEAD sections did not succeed in damping the ground fire. The attacking force was intercepted by MiGs over the target area with one specifically targeting Snir's wingman. Snir ignited his afterburners and managed to destroy the MiG with cannon fire, as Aharon Katz was monitored their rear for any emerging threats. As Snir's MiG target burned, an AA-2 hit Omri Afek's F-4, though he was able to nurse it back to Israel, making an arrester gear landing. Aharon Katz, Snir's beloved backseater, was later killed, in June 1982, over Lebanon. Asher Snir would end his air combat career with 13.5 kills. Tanta and Mansourah would be targeted by large airstrikes four times each before the end of the war.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 119 Squadron

CAP/SEAD Element

2x F-4E w/ *skilled* (+1) crew

(enter turn 2 from board edge 3 or 4, speed 5, any TAL and CAB)

Snir and Locksmith Flight

1x F-4E w/ *ace* (+3) crew (Asher Snir & Aharon Katz)

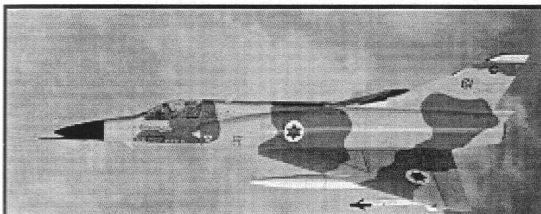
1x F-4E w/ *skilled* (+2) crew (Omri Afek)

1x F-4E w/ *green* (+0) crew (Binyamin Livne & Rahamim Sofer)
(enter turn 1 from the north board edge, speed 6, TAL 3 S. LOW CAB)

VARIABLE RULES

- 1-4 **It is a long way to Tanta - Low Fuel**
Randomly select two F-4s other than Snir's F-4, they have only 2 afterburner boxes.
- 5 **Fragile Engine**
Randomly select one F-4, if this aircraft sustains Engine Damage, it must reduce maximum speed by -5 rather than -4.
- 6-8 **Sensory Overload**
Replace one *skilled* (+1) **CAP/SEAD Element** crew with a *green* (+0) crew.
- 9-10 **Those New Slats Really Help!**
Randomly one F-4s, this aircraft has been upgraded with the new wing slat kit; it uses the "C" Turn and Maneuver Charts.

Fight for the Corridor



SETTING

Date: 16 October 1973, 1100 hours.

Location: Over the IDF corridor, near the Suez Canal, (see Scenario Rules).

History: By 16 October Israeli forces had driven a wedge to the Suez Canal and had begun crossing in strength. The cleared pathway to the crossing, dubbed the "Corridor", was the scene of vicious battles between Israeli and Egyptian ground forces. In an effort to interdict Israeli movement of combat forces and supply, the EAF launched an intense series of raids against the Corridor and the bridgehead. One such attempt was made before noon on 16 October. Flying CAP over the Corridor, a flight of Neshers from 113 Squadron, led by Shlomo Levi was vectored to intercept MiG-17s.

Conditions: Visibility: 12 (Smoke); Sun: Edge 6

CAB: LOW and SURFACE LOW.

Clouds: Table Clouds: none; Cloud Border: none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +2 VP for each bomb hit on the Convoy.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: No limit.

SCENARIO RULES

1. An Israeli truck Convoy should be positioned as shown on the map oriented west to east; it is six hexes long.
2. Neshers carry 2x Shafir 2 IRM.
3. The MiG-17s carry light bomb loads and are considered full-load.
4. The AAA Batteries are point targets, are not radar controlled, and are destroyed with one hit.

EGYPTIAN AIR FORCE

Lead Element

1x MiG-17F w/ skilled (+1) crew

1x MiG-17F w/ green (+0) crew

(set up in board area C heading east, speed 3, TAL 1 S.LOW CAB)

Trail Flight

1x MiG-17F w/ skilled (+1) crew

3x MiG-17F w/ green (+0) crew

(enter turn 1 from board edge 3 heading east, speed 3, TAL 1 SURFACE LOW CAB)

4x Light AAA Batteries

(set up first within 10 hexes of the north or south board edges)

2x SA-7 Batteries w/ green (+0) crew and 2 missiles each

(set up first within 10 hexes of the north or south board edges)

VARIABLE RULES

- 1-2 **Veteran of the Attrition War**
Replace the skilled (+1) Lead Element MiG-17F crew with a veteran (+2) crew.
- 3-5 **Low Flying**
Any MiG-17 may declare ultra-low flying at the start of any turn when at TAL 1, SURFACE LOW CAB. Any fire against it that turn receives an additional minus one (-1) to-hit modifier; at turn end it must pass an aircrew check or it hits the ground and is destroyed.
- 6-7 **Less fuel than we thought**
At the start of turn 1 or 2, inform the Israeli player that each Nesher only has two Afterburner boxes.
- 8-10 **Soviet ZSU**
The Egyptian player may place one Hidden ZSU Light AAA Battery anywhere in Egyptian Territory. It is a radar-directed Light AAA gun; it is placed on the board only after it fires.

SCENARIO RULES (continued)

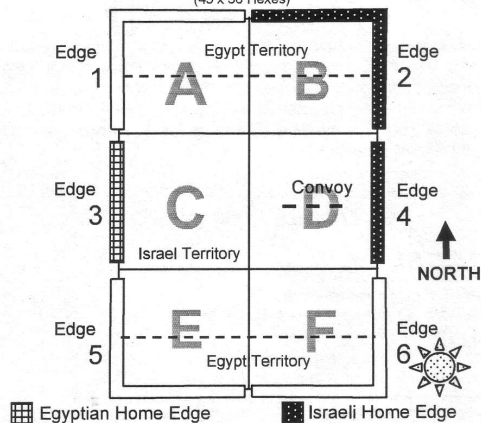
5. The SA-7 Batteries may only fire one missile per turn. The battery is not placed on the board until it fires.
6. Whenever an Egyptian aircraft is within 6 hexes of an enemy aircraft targeted by SA-7/AAA fire and within engagement parameters, roll a d6 before firing; on 1-2 the SA-7/AAA must fire on the friendly target.
7. The north and south 7 hexes of the board are Egypt and the rest Israeli for crew capture purposes (representing the IDF corridor).
8. The Egyptian player may place 3 four hex long parallel rows of smoke anywhere on the board. These smoke plumes block line of sight as if they were clouds effecting TAL 1-3 SURFACE LOW CAB, and remain in place for the duration of the game. IR Missiles may not be fired at targets in smoke
9. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

Jettisoning their tanks, the Neshers intercepted the MiGs. The Egyptians were flying very low and slow (Levi reported they were flying at around 250 knots). Levi quickly closed on a pair of MiGs forcing them to split-up. He focused on one of them, pouring cannon fire into it and making it severely smoke (this aircraft was later credited as a kill); just then his wingman warned him that there were two MiG-17s on his tail firing at him. Levi quickly dove to near ground level, picked up speed and extended away from the threat. In the end, three MiG-17s were claimed destroyed but 113 Squadron lost Menachem Kashtan whose aircraft was destroyed by gunfire from a MiG-17. Levi would end his flying career as one of the IAF's top Aces with 10 victories.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 113 Squadron

1x Nesher w/ veteran (+2) crew (Shlomo Levi)

2x Nesher w/ skilled (+1) crew

1x Nesher w/ green (+0) crew (Menachem Kashtan)

(set up second in board area E or F, speed 5, TAL 3 LOW CAB)

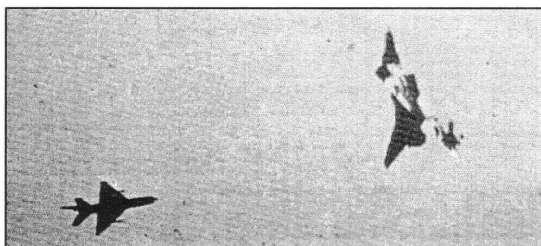
1x Light AAA Battery

(set up first greater than 10 hexes from the north or south board edges)

VARIABLE RULES

- 1-3 **Poor EAF Coordination**
The Trail Flight must enter turn 3, inform the Egyptian player just prior to the start of play.
- 4-6 **IAF SEAD Strikes**
If the Egyptian player rolls the Soviet ZSU Variable Rule, it is destroyed at the end of the turn it appears on the board.
- 7-10 **Poor GCI and Open Formation**
One skilled (+1) crew and one green (+0) crew Nesher must enter from the south board edge on turn 3.

Turning the Tide



SETTING

Date: 19 October 1973, 1500 hours.

Location: Just west of the Suez Canal, Sinai, Israeli Territory.

History: As the tide on the ground turned against Egypt, the EAF desperately tried to attack the advancing Israelis. By 19 October, 144 Squadron, made up exclusively of Nesheers, had flown hundreds of sorties, spending most of the war focused on Egypt. On this day, Eliyahu Menachem and Ariel Cohen were ordered to intercept EAF strike aircraft; this time, the attackers were escorted by MiG-21s.

Conditions: *Visibility:* 16; *Sun:* Edge 1

CAB: LOW and SURFACE LOW.

Clouds: *Table Clouds:* none; *Cloud Border:* none

Egyptian Orders: Achieve more victory points than the opponent. The Egyptian player is awarded an additional +2 VPs for each hit on the **Convoy**.

Israeli Orders: Achieve more victory points than the opponent.

Game Length: 12 turns.

SCENARIO RULES

1. **Nesheers** carry 2x Shafrir 2 IRM and start as **Hidden** aircraft.
2. The **MiG-17s** carry Multiple-Rocket Pods and are considered **full-load**. The Multiple-Rocket Pods may be fired at air targets and are treated as **one** shot with 4 LVHC. Any air-to-air fire from the **MiG-17s** must take a minus one (-1) to-hit die roll penalty.

EGYPTIAN AIR FORCE

Attack Element

1x MiG-17F w/ skilled (+1) crew

1x MiG-17F w/ green (+0) crew

(set up second in board area A or B, speed 4, TAL 1 S.LOW CAB)

Cover Lead

1x MiG-21MF w/ skilled (+1) aircrew

1x MiG-21MF w/ green (+0) aircrew

(set up second in board area C or D, any speed and TAL SURFACE LOW CAB)

Cover Trail

1x MiG-21MF w/ skilled (+1) aircrew

1x MiG-21MF w/ green (+0) aircrew

(enter turn 3 from board edge 1 or 2 -or- turn 4 from board edge 3, any speed, TAL 2 SURFACE LOW CAB)

VARIABLE RULES

- 1-4 **Veteran of the Attrition War**
Replace the **green** (+0) **Cover Lead** MiG-21 crew with a **skilled** (+1) crew.
- 5-6 **Low Flying**
Any **MiG-17** may declare ultra-low flying at the start of any turn when at TAL 1, SURFACE LOW CAB. Any fire against it that turn receives an additional minus one (-1) to-hit modifier; at turn end it must pass an aircrew check or it hits the ground and is destroyed.
- 7-8 **Maintenance Problems**
One random **MiG** has no afterburner.
- 9-10 **Separated Scouting**
One **Nesher** (Ariel Cohen) must enter turn 4 from board edge 4; inform the Israeli player just prior to the start of play.

SCENARIO RULES (continued)

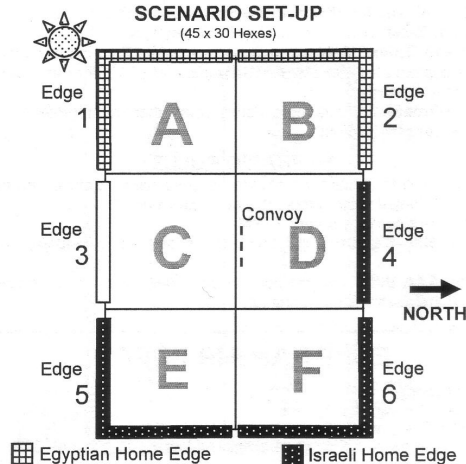
3. The **MiG-21s** carry 4x AA-2.
4. An Israeli truck **Convoy** should be positioned as shown on the map oriented east to west; it is six hexes long.
5. The **AAA Battery** is a point target, is not radar controlled, and is destroyed with one hit.
6. IR Missiles may not be fired at targets in smoke.
7. Aircraft must plot their turn and location of entry prior to play.

AFTERMATH

Menachem and Cohen quickly engaged the MiG escorts, splitting in the process. Cohen engaged a turning MiG-21 at less than 300m with his guns, exploding the target as the enemy pilot ejected. Before they were able to coordinate actions, another element of MiG-21s entered the fray. Executing a Split-S, Cohen targeted a MiG that dove for the desert, positioning himself 3000m behind the target he fired a missile which impacted perfectly forcing the Egyptian jet into the sand below. By the end of the action, Cohen and Menachem each claimed two MiGs destroyed. Both Menachem and Cohen would end the war as aces with six and five kills respectively.

SCENARIO SET-UP

(45 x 30 Hexes)



ISRAEL AIR FORCE

Elements of 144 Squadron

2x **Nesher** w/ veteran (+2) crew (Eliyahu "Eli" Menachem, Ariel Cohen)
(set up third in board area E or F, any speed and TAL LOW CAB)

1x **Light AAA Battery**

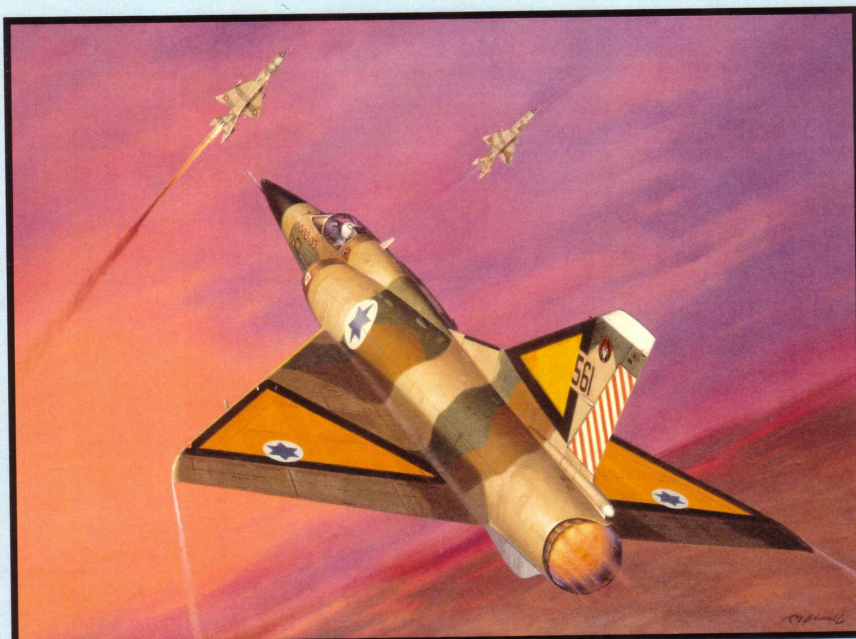
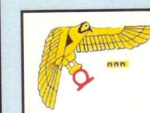
(set up first anywhere within 10 hexes of the Convoy)

VARIABLE RULES

- 1-3 **Poor EAF Coordination**
The **Cover Trail** must enter turn 3 from the west board edge, inform the Egyptian player just prior to the start of play.
- 4-6 **Flanking Movement**
One **Nesher** (Ariel Cohen) may enter turn 1 from board edge 4, if the Egyptian player rolled the **Separated Scouting** Variable Rule, the Egyptian rule is ignored as treated as "none".
- 7-10 **Battlefield Smoke**
The Israeli player may place 3 four-hex long single rows of smoke anywhere on the board. These smoke plumes block line of sight as if they were clouds effecting TAL 1-6 SURFACE LOW CAB, and remain in place for the duration of the game.



STAR AND PYRAMID



STAR AND PYRAMID is a scenario and campaign book for the popular **CHECK YOUR 6 JET AGE** Air Combat and Campaign Rules. The book provides **comprehensive coverage** of the air wars between Israel and Egypt between 1966 and 1973 under one cover with **five campaigns** and **27 scenarios**. The scenarios can be played individually, linked to form campaigns, or combined as one grand campaign.

- The *first* campaign covers the Israeli surprise attack on Egypt and the first two days of air battles in the **1967 Six-Day War** while the *second* covers Egyptian attempts to strike back over the final four days of the war.
- The *third* campaign covers desperate Egyptian attempts to regain the initiative in the **War of Attrition** between 1969-1972 by employing new aircraft, surface-to-air missiles, and *direct involvement* from the Soviet Union.
- The final two campaigns cover the aerial struggle between Israel and Egypt during the **Yom Kippur War** in 1973. The *fourth* campaign spotlights the desperate struggle of the Israeli Air Force against the massive air defense systems of Egypt. The *fifth* campaign covers the second half of the war, when Israel renewed deep strike operations and faced a surviving and fighting Egyptian Air Force.

The book *also* features some of the world's top jet aces including **Michael "Diamond" Haber, Dan Sever, Giora Rom, Avraham Salmon, Israel Baharav, Yiftach Spector, Asher Snir, Eitan Peled, Amir Nachumi, Eitan Ben-Eliyahu** and **Shlomo Levi**. The book also presents the little known exploits of Egyptian pilots such as **Mustafa Hafez, Nabil Shuwakri, Ahmad Atif, Qadri al-Hamid, and Nasr Mousa**.

HISTORICAL RESEARCH: The book includes several introduction sections containing campaign historical background, an annotated bibliography for further reading, a color scheme guide, and a campaign map.

AIRCRAFT STATISTICS and CAMPAIGN INFORMATION: The book contains aircraft statistics for more than **20** US, British, Israeli and Soviet-built aircraft in **CHECK YOUR 6 JET AGE** format for use in the scenarios. The book also contains detailed notes and rare pictures of the various aircraft featured in the campaign.



AIR COMBAT & CAMPAIGN RULES

From the Designers of *Skirmish Campaigns*



CY6! 2007 Origins
Award for Historical
Miniatures Rules

www.skirmishcampaigns.com

SC-04-08

ISBN: 978-0-9818110-9-3



9 780981 811093