

# ELUSIVE VICTORY

*The Air War over the Suez Canal, 1967 to 1973*



*For Malibu Reynolds ~  
The price of freedom is never free.*

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## 1. Introduction

*Elusive Victory* is a game of air warfare over the Sinai Peninsula and Suez Canal. During the Arab-Israeli Wars in 1967, War of Attrition in 1969 and Yom Kippur/Ramadan War of 1973, the Sinai and Suez Canal area was the focus of Israeli and Egyptian air attacks against fielded forces and the struggle for air superiority. In *Elusive Victory*, the players command the air defenses of Egypt and her Allies and the air defenses of the Israeli Defense Force.

### 1.1 Players

Two players are required, one to play the Egyptian (EAF) side (United Arab Republic Air Force) in 1967 and afterwards called the Egyptian Air Force and one to play the Israelis (the IAF player).

Both sides control air force and air defense assets. Either side (or both) can be tasked with striking infrastructure, air force installations, air defenses and fielded ground forces while defending their assets.

The IAF player controls formations of aircraft, AAA, HAWK batteries, and ground units. The EAF player controls an evolving combination of AAA, *Fire Can* radar-directed AAA, SAM battalions, aircraft and ground units.

Success for the IAF results from integrating all the elements into a package to complete the bombing mission and/or defending occupied territory from Egyptian attack.

Success for the EAF results from either successfully defending targets or striking Israeli ground installations.

### 1.2 Rules

The rules are divided into standard, advanced and optional rules. The advanced rules add detail and make for a more complete simulation. The optional rules add more realism but also increased complexity. Players learning the game may skip the advanced and optional rules until they are familiar with the standard game mechanics.

#### 1.2.1 Rule Conventions

Rules are numbered. Cross-references to other rules are listed [in square brackets]. Design notes describe some of the background and thought processes behind the rules.

#### 1.2.2 Learning *Elusive Victory*

New players might wish to start by learning the simple introductory scenario in the scenario book. This tells you which rules sections to read first and summarizes some of the more important combat rules.

### 1.3 Glossary of Game Terms

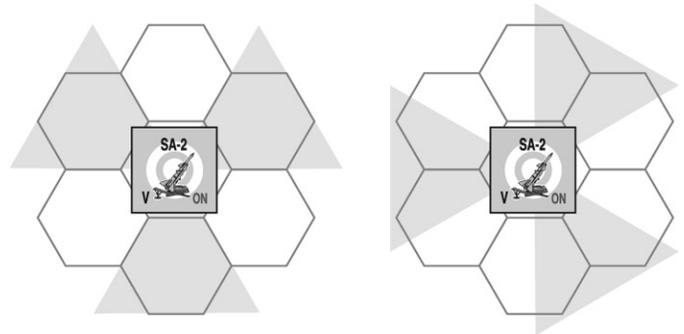
**AAA.** Anti-aircraft artillery, also termed ‘Flak’.

**ABA.** Airbase Attack.

**Abort.** Flights that are no longer able to conduct their mission may ‘abort’ or run for home.

**ADC.** Aircraft Data Chart, a play aid that lists the performance and capability data for aircraft.

**Aggression Value.** A value representing pilot training, leadership and élan.



**Arcs/Hemispheres.** Arcs are 60-degree areas around a flight, *Fire Can* or SAM unit.

**Illustration:** For ground units, arcs can be defined in two ways, depending on the grain of the hex grid. For aircraft units see the *Arcs and Hemispheres* display on the play aids.

The three forward arcs of an aircraft flight make up the front hemisphere, and the three rear arcs constitute the rear hemisphere. (See the *Arcs* diagrams on the play aids.)

**ARM.** Anti-Radiation Missile or (Arm) Armor ground counter.

**ASM.** Air-to-Surface Missile.

**BAI.** Battlefield Air Interdiction.

**BDA.** Bomb Damage Assessment.

**BVR.** Beyond Visual Range.

**Cairo.** (Hex 3010) Cairo is the Egyptian capital.

**Campaign.** A campaign consists of a number of raids that take place over one or more game days.

**CAP.** Combat Air Patrol. CAP is a term applied to any IAF or EAF flight tasked with protecting against enemy aircraft.

**CAS.** Close Air Support.

**CSAR.** Combat Search and Rescue.

**Disordered.** Units which are scattered and uncoordinated.

**Dummy.** A fog of war term used to denote any flight that does not consist of real aircraft. Dummy flights are used to confuse the enemy player on the location of real flights.

**Egrof (Fist).** Israeli term for SEAD mission.

**Enemy/Friendly.** Friendly units are all units assigned to the player by the scenario or campaign. An enemy unit is a unit controlled by the other player.

**EOGB.** Electro-Optical Guided Bombs.

**Fire Can.** A radar-direction system for AAA.

**Flight.** A unit of 1-4 aircraft of the same type in formation.

**GCI.** Ground Controlled Intercept.

**Gun Dish.** Fire control radar for ZSU-23-4 *Shilka* mobile AAA system.

**HAS.** Hardened Aircraft Shelter.

**HAWK.** Homing-All-the-Way-Killer US-made SAM System.

**IRM.** Infrared Missile, a heat-seeking air-to-air weapon.

**LOAL.** Lock-On After Launch.

**MAP.** MiG Availability Point.

**PGM.** Precision Guided Munitions. A generic term covering ARM and EOGB weapons.

**QRA.** Quick Reaction Alert flights are aircraft that are cocked and ready to takeoff in normally 5 minutes or less. SSR will normally dictate when an IAF QRA flight may takeoff but if no restrictions are listed then any flight on QRA (IAF or EAF) may takeoff on any game turn during the scenario.

**Raid.** A raid is an individual mission in which flights enter the map or takeoff from a base, conduct combat or other taskings and return to base.

**RD.** Runway Dibber Anti-Runway Bomb

**RHM.** Radar Homing Missile, a radar-guided air-to-air weapon.

**RWR.** Radar Warning Receiver.

**SAM.** Surface-to-Air Missile. Includes SA-2, SA-3, SA-6 and HAWK. Anytime this term is used in rules then it applies to all four systems listed above.

**Scenario.** One or more raids flown by either or both players tied together on a specific date.

**Scenario Attacker.** Scenario attacker will normally be the side which has as its primary tasking to Bomb or Recon a target or targets.

**Scenario Defender.** Scenario defender will normally be the side which is defending against raids flown by its opponent. In the case of air-to-air or dual bombing scenarios the IAF will be the Scenario Defender.

**SEAD.** Suppression of Enemy Air Defenses (or the Israeli term ‘Egrof’). The term for missions tasked to suppress ground-based defenses.

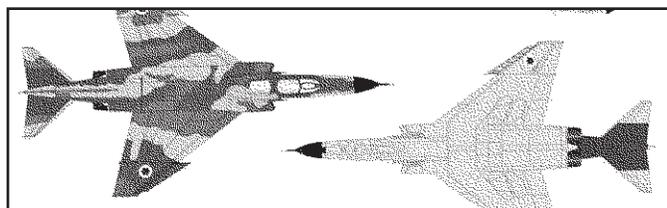
**SSR. Scenario Special Rule.** A scenario special rule is only applicable to that scenario or campaign. If a regular rule and SSR conflict, the SSR takes precedence.

## 1.4 Scale

Hexes are 2.5 nautical miles across (approx. 4 kilometers). Movement Points are multiples of 150 knots (approx. 280 kph). Game turns are 1 minute long. There are four altitude bands, representing a flight’s height above the ground, as follows: Deck (0-2,500 feet), Low (3,000-8,000 feet), Medium (9,000-21,000 feet) and High (22,000+).

## 1.5 Dates

*Elusive Victory* scenarios represent battles that took place from 1967 to 1973, during which time tactics and military technology



changed. Some rules, weapons or capabilities are used on or after certain dates. Dates are usually listed by month and year.

**EXAMPLE:** *Sep 67* is September 1967.

# 2. Game Equipment

## 2.1 Dice

*Elusive Victory* uses ten-sided dice, with 0 read as ten and not zero. Some die rolls are the sum of two dice, generating numbers from 2 to 20. Play Aid tables have dice symbols printed before the title. One die symbol means one die is rolled on that table. Two dice symbols means two dice are rolled.

### 2.11 Die Roll Modifiers

Some tables require players to apply die roll modifiers. These are added to or subtracted from the dice result.

## 2.2 Maps

**Design Note:** *The maps show the area of the Sinai and Egypt where the majority of the air battles were fought during the Arab-Israeli Wars.*

The game maps portray a portion of Egypt, with its capital Cairo, the Suez Canal and also the Sinai desert area.

### 2.21 Hex Grid

A hex grid has been superimposed on the maps to regulate the position and movement of the playing pieces. Each hex is individually numbered. Where a four-number map reference is given, the first two digits (00xx) indicate the hex column on the map, while the last two digits (xx00) indicate the hex row.

Distances on the maps are counted in hexes. To calculate a distance, trace the shortest possible path from one map hex to another and count the number of hexes the path enters.

**EXAMPLE:** *An adjacent hex is one hex distant, the hex beyond is two hexes distant, and the one beyond that is at three hexes.*

When counting the distance to a flight occupying a hexside count to the nearer of the hexside's two hexes and vice versa (count from the nearer hex when counting distance from a flight on a hexside to another hex.)

Half-hexes on map borders are not playable.

### 2.22 Terrain Features

A key describes the features of the map. Land, Marsh, Rough or Urban artwork indicates types of land. Water artwork indicates sea, bodies of water and the Suez Canal. Land hexes must contain at least 50% land artwork otherwise they are treated as water hexes. If players are in dispute as to whether a hex is land or water, flip a coin to settle the matter.

A hex with any portion of Urban, Marsh or Rough artwork is considered an Urban, Marsh or Rough hex. Any hex that Highway artwork runs through is treated as a Highway hex.

The terrain type extends to the hexsides so that flights on hexsides are 'in' that terrain. Ridgelines affect only hexsides.

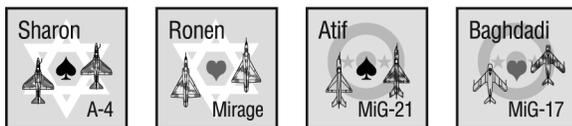
**Design Note:** *Rough terrain represents hills above 1,000 feet, where low-flying aircraft can avoid radar detection. Ridgelines are mountainous obstacles to flight.*

### 2.3 Playing Pieces

Punch out the counters from the sheets of colored die-cut playing pieces. Counters come in four general types: air units, ground units, chits and markers.

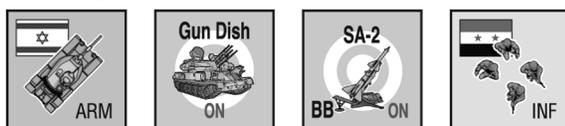
#### 2.31 Air Units

Air units are called flights and represent small groups of 1-4 aircraft. IAF flights are blue in color and EAF flights are tan.



#### 2.32 Ground Units

Ground unit types include: AAA concentrations, *Fire Can/Gun Dish* units, SAM/HAWK units, Egyptian and Israeli Army ground units [27].



### 2.33 Chits

Initiative chits are used to order the movement of flights.



### 2.34 Markers

All other counters are markers for indicating the status of air or ground units, or act as a reminder for the players of the game turn or weather state.



### 2.4 Charts and Tables

Various charts and tables are provided for the player as reference and to resolve certain game functions.

### 2.5 Scenarios

Players have a choice of game scenarios to play. Scenarios are listed in the scenario book and describe the forces, objectives and special rules for a raid [28] or campaign [29].

### 2.6 Order of Battle

**Design Note:** *For the most part, both nations used a multitude of different aircraft types to attack and defend their territory. Only during the 1973 Yom Kippur/Ramadan War do we see a more straight forward OOB.*

The orders of battle in the scenario book list the composition of IAF and/or EAF raids specifically for the 1973 Yom Kippur/Ramadan War. When planning a raid, the tables determine the units and aircraft types used [28.31]. If the order of battle table is not used then the composition of the forces will be detailed within the scenarios themselves, specifically for the 1967 Six Day War and 1968-1970 War of Attrition timeframe where no standard raid composition is available.

### 2.7 Planning Maps

The Planning Maps are reduced-size copies of the two maps and are used to plot raid flight paths before starting play [8.31].

### 2.8 ADC

**Design Note:** *Both sides use many types of aircraft. The game not only distinguishes between major types of aircraft, such as the F-4 Phantom or the A-4 Skyhawk, but the versions of each type. So the A-4E/H and A-4N Skyhawk are regarded as two separate types of aircraft in the rules and have different capabilities.*

The Aircraft Data Charts (ADC) list all the movement and combat information for the aircraft.

### 2.81 Data

The ADC data includes the number of crewmembers; the aircraft's fuel allowance [20]; the aircraft's bomb strength [16.12]; the bombsight modifier; the Radar Warning Receiver (RWR) rating and the aircraft's jamming strength [19.1].

The aircraft's Combat throttle, Dash throttle and Maneuver rating for each altitude band are listed. There are three numbers, separated by a slash: one each for Low, Medium and High altitude band. (Low band values are also used for aircraft flying on the Deck.) Where there are two rows of numbers, the bottom is for laden and the top for clean flight [16.21].

The ordnance column lists special ordnance that may be carried [16.11]. The number of ordnance shots is given (in parentheses) [16.14]. The capabilities column lists any special abilities the aircraft possesses. Air-to-Air lists all the air-to-air weapons the aircraft may carry [11.12]. The depletion number for air-to-air weapons is given {x} [0].

### 2.82 Notes

Reminders on SAM defense and slash attacks are listed in the notes column, with letters referencing special notes on the reverse side of the ADC. Special notes include the dates when weapons or capabilities become available.

### 2.9 Flight Logs

There are separate flight log sheets for the IAF and EAF players. These track the status of air units [4.2] and also have spaces to keep track of SAM battalions, AAA concentrations and for the EAF also its *Fire Can* and *Gun Dish* units [28.33].



## 3. Sequence of Play

A scenario consists of one or more raids. In some scenarios both sides conduct raids simultaneously. Air units of both sides may start either in the air, on an airbase, or enter the map and attack ground targets, perform recon or conduct air-to-air combat and return to base or exit the map. The EAF and/or IAF player defends with air units and AAA or SAM defenses.

Each raid must be planned in advance. After setting up the map and components, the raid is then played out. Scenarios are divided into game turns. During each turn the players follow a Sequence of Play in which they conduct various game actions.

The Sequence of Play for a scenario is as follows. Where several activities are listed for a phase, perform them in the order indicated:

### 3.1 Prior to scenario

**Ground Planning Phase.** The EAF player determines map locations for SAM battalions, dummy SAMs, dummy radars, EW radars, AAA concentrations and *Fire Can* units and records these on the EAF log sheets [28.33]. The IAF player determines map locations for HAWK units, EW radars, AAA concentrations and records these on the IAF log sheets [28.33].

**Ground Deployment Phase.** Both players set up non-hidden AAA [28.61], ground units [27.1] and located SAMs on-map [28.62].

**Raid Planning Phase.** Both players determine their target(s) and plot the flight path for their raid(s). Log sheets are filled out [28.33]. Both players may plot Rally points [8.51]

**Early Warning Phase.** An Early Warning Phase is only in effect by SSR. Roll for the raid's early warning result on the Early Warning Table. The IAF player provides raid information to the EAF player based on the result [28.5].

**Air Deployment Phase.** Both sides set up CAP flights at readiness at airfields or in the air if allowed [28.63, 28.64].

**Raid Deployment Phase.** IAF flights entering on the first game turn set up off-map near their ingress hex [8.11, 28.63]. Detection states of flights are set according to the early warning level or if no Early Warning Phase then IAF aircraft entering at Medium/High are detected and IAF aircraft entering at Low/Deck are undetected. Optionally, pre-raid forces may be set-up on the map [28.66]. EAF Raid flights may setup on-map at designated ingress points [8.12, 28.64] or are placed at readiness at their launch airfields. EAF flights always start the scenario undetected.

**Radar Phase.** The EAF player may switch on any *Fire Can* or SAM/EW radars. The IAF player may switch on any HAWK or EW radars. AAA may be activated for both players [14.2, 28.65].

### 3.2 During the Scenario

During a scenario, resolve each game turn as follows:

**Random Events Phase.** One player rolls two dice and checks for Random Events [21]. (No Random Event occurs on first game turn.)

**Jamming Phase.** The IAF player places or moves standoff jamming markers [19.32, 19.33].

**Detection Phase.** Roll to detect undetected flights [10.2].

**Movement Phase.** Flights enter/exit defensive wheels [7.11, 11.43]. Draw initiative chits [5.2]. Flights move in initiative order. During movement, flights may engage enemy air units [11.2]. AAA (including *Fire Can* and *Gun Dish*) and SAMs may fire on moving flights [14.3, 14.43, 14.52, 15.3]. Bombing attacks may take place [17.1]. Photo recon runs take place [24.1].

**Fuel Phase.** Flights that used dash throttle and/or are engaged in air-to-air combat note the fuel usage on their flight logs [2.9]. Recover aircraft that have landed or left the map [20.2].

**SAM Location Phase.** The IAF player rolls to locate SAM battalions [15.13]. Not applicable to EAF player.

**Track Phase.** Some detected flights automatically become undetected. Both players roll on the Track Table to determine which detected enemy units become undetected [10.3].

**SAM Acquisition Phase.** Switch on SAM radars attempting quick acquisition [15.22]. SAM units attempt to acquire or maintain acquisition on enemy flights [15.21]. Resolve pre-emptive ARM attacks [17.56].

**Admin Phase.** Flights roll for disorder recovery [13.11]. Split flights [4.14]. Switch *Fire Can* radars on or off [14.44]. Switch SAM radars on or off (roll to switch on if radar was shut down [17.53]) and place SAM Warning markers [15.11, 15.12]. Remove SAM Launch markers [15.32]. Generate dummy counters [4.13]. Make EAF and/or IAF flights ready or move them into revetments at airfields [9.32]. Roll for loss of AAA suppression [18.21]. Activate AAA [14.2]. Parachuting crewmen land [26.1]. Roll for crew capture [26.2]. Roll for crew rescue [26.2]. Both players set up any flights that will enter the map next game turn off-map near their ingress hex [28.64].

After the Admin Phase has finished, begin a new game turn.

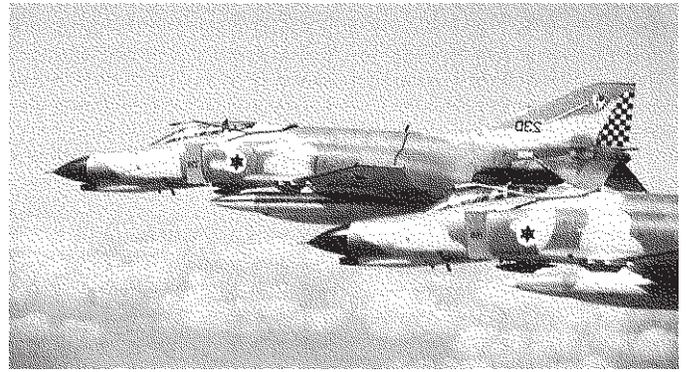
### 3.3 Completing the Scenario

The scenario finishes when the last IAF or EAF flight in the raid(s) has left the map, returned to base or is destroyed, or when both players agree to quit [28.7]. After the raid, conduct the following phases:

**Recovery Phase.** Roll for recovery of any remaining on-map flights [20.2].

**Bomb Damage Assessment Phase.** Roll for all non-assessed air-to-ground damage [18.1, 24].

**Victory Phase.** Players check for victory in the raid [28.8].

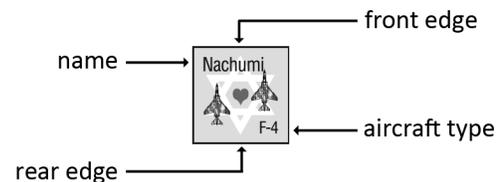


## 4. Air Units

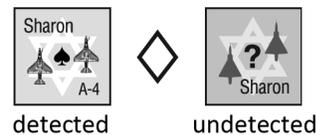
Air units represent flights of between one and four aircraft, all of the same type. The number of aircraft in a flight is determined by aircraft purchase [28.21] or the order of battle tables [28.31].

### 4.1 Flights

Flights have the characteristics of the aircraft that make up that flight, as described on the ADC [2.8]. Flight counters have a front (or forward) and rear edge.



Flights have a name designation. IAF flights have a historical Israeli pilot or ace name, printed on the counter. EAF flights carry the name of a historical pilot or ace, printed on the counter. This should be noted on the log sheet. The flight counter also indicates the general type of aircraft in the flight.

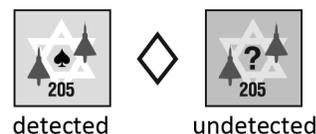


All flight counters have two sides: the detected side, bearing a heart, spade or diamond suit icon, and the undetected side, bearing a question mark (“?”) icon.

### 4.11 Generic Counters

**Design Note:** *Generic counters are used to conceal the true identity of air units.*

Until it is visually identified [10.4], a flight is represented on the map by a generic counter. Generic counters are identified by a letter or three-digit number. Players should note the number of each flight’s generic counter on the log sheet.



No callsign or aircraft type is listed on a generic counter. When a flight is visually identified, replace the generic counter with

the actual flight counter. A generic counter's suit icon does not need to match that of the flight it represents.

#### 4.12 Dummies

**Design Note:** *Dummy flights are more than fake air units. They represent false warnings and imagined threats that confuse the enemy forces. Both sides in Elusive Victory gain access to dummy flights simulating the harsh terrain and limited radar capabilities of both sides to detect low level targets especially in the mountainous and Rough terrain areas.*

A scenario will allocate the EAF and/or IAF player a number of dummy flights. Dummies use generic counters. Dummies contain no aircraft and only exist to confuse the other player. These may be moved as if they were real units. However, they may not engage, attempt visual sightings or attack enemy flights. Detected dummy flights are immediately removed from the map. They are also removed if a flak barrage achieves a combat result against them. Dummies can be voluntarily removed from the map at any time. Removed dummies can reappear through dummy generation [4.13]. During a turn, neither side is required to have its entire allotment of dummies on the map and may keep unused dummies 'in reserve' for later use.

#### 4.13 Dummy Generation

In the Admin Phase, if allowed by the scenario, one or both player(s) may generate a dummy flight by placing it on the map at any open airfield. The dummy sets up ready, unready or in revetments [9.32].

Dummies may also be generated in the same hex and altitude band and with the same heading as an undetected generic flight counter. Only generic flight counters (including other dummy counters) generate dummies. Flights that have been visually identified [10.4] no longer generate dummies. Each flight counter may generate one dummy every Admin Phase.

When a dummy counter is generated by a flight, that flight may secretly swap its current generic counter for the dummy counter. Note the flight's new counter ID on the log sheet.

**EXAMPLE:** *A flight using generic counter H generates a dummy. Dummy counter B is placed in the same hex at the same altitude and with the same heading. The player may choose to keep counter H as the flight's generic counter, or adopt counter B instead. He decides to swap the flight to counter B, making counter H the new dummy.*

Dummies may be regenerated any number of times, but the players may never have more dummies than their starting allowance in play at any time.

#### 4.14 Splitting Flights

A flight of three or more aircraft may split into two flights in the Admin Phase. This may only be done if one or more aircraft in the flight are crippled. Add a new flight counter to the map and create a flight log for the split flight.

One flight must comprise all the crippled aircraft and one non-damaged aircraft (if this cannot be achieved, the flight may not split). The other flight contains the remaining aircraft. Both

flights have the same aggression value, ammo, fuel, ordnance, disordered and tasking status as the original.

**Design Note:** *This rule allows the player to escort a crippled aircraft home, freeing the rest of the flight to continue with its mission.*

## 4.2 Log Sheets

Each flight has a space on the log sheet noting the flight's name, generic counter, task, aggression value and various ordnance and formation states. These states apply to all aircraft in the flight. In addition there are check boxes to note air-to-air weapons depleted and fuel expended in a raid.

Log sheets should be filled out in the Planning Phases and the EAF/IAF Air Deployment Phase.

Counter # 201	Callsign <u>ROOTBEER</u>	A/C #1 <input type="checkbox"/>	Gun <input type="checkbox"/>	Bomb <u>CBV</u> /	Tasking	Arm. Esc.	Fuel
	A/C Type <u>F-4B</u>	A/C #2 <input checked="" type="checkbox"/>	IRM <u>AIM-9D</u> (3)	Ord. 1	Mission	Rev. Hand	
	Aggression <u>+2</u>	A/C #3 <input checked="" type="checkbox"/>	RHM <u>AIM-7E-2</u> (3)	Ord. 2	Notes		

**Illustration:** *This log sheet shows Rootbeer flight at the start of play. Generic counter #201 is used to represent this flight until it is visually identified. It is a two-aircraft F-4B flight (the spaces for aircraft #3 and #4 are crossed out) tasked with Armed Escort and attached to an Iron Hand mission. Its Aggression value is +2. The unchecked fuel boxes indicate it has five points of fuel remaining. It is armed with AIM-9D IRM and AIM-7E-2 RHM. The scribbled out gun box indicates it has no gun weapons. One strength point of CBU ordnance is carried.*

#### 4.21 Aircraft Boxes

The log sheet has four boxes numbered one to four. Each box represents the status of a single aircraft in the flight.

Aircraft with empty boxes are operational and undamaged. A slash through a box indicates the aircraft is damaged. A crossed out box indicates the aircraft has been crippled. A crossed out and circled box means it has been shot down. Black out a box if the aircraft does not exist in the flight. (For example: if the flight starts with two aircraft, black out boxes three and four.)

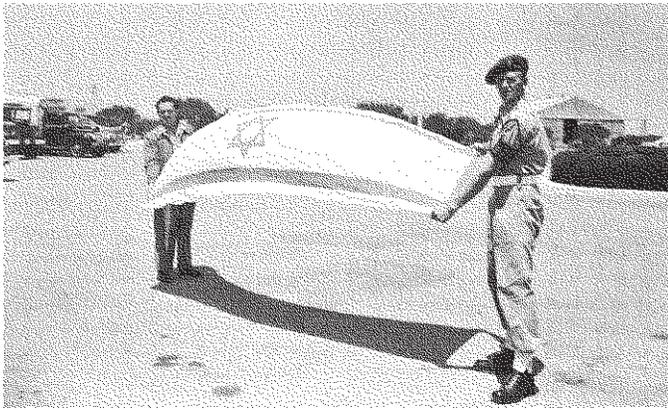
Counter # 201	Callsign <u>ROOTBEER</u>	A/C #1 <input checked="" type="checkbox"/>
	A/C Type <u>F-4B</u>	#2 <input checked="" type="checkbox"/>
	Aggression <u>+2</u>	#3 <input checked="" type="checkbox"/>
		#4 <input checked="" type="checkbox"/>

**Illustration:** *Rootbeer flight is having a bad day. Aircraft #2 has been shot down while aircraft #1 is damaged.*

#### 4.22 Visual ID Information

Players keep the information on their log sheet secret from their opponent. However, if a flight is visually identified [10.4], the following information must be given:

- The type of aircraft. (The exact variant is not necessary. For example: state "A-4 Skyhawk" rather than "A-4H".)
- The total number of aircraft.
- The number of damaged and crippled aircraft.
- Whether the flight is clean or laden.



## 5. Initiative

**Design Note:** *Air battles are fluid and dynamic. The initiative system models this 'organized chaos'.*

At the beginning of each Movement Phase, the scenario designated defender will decide whether to move first or second. Once this decision has been made the IAF and EAF player alternate movement, the number of aircraft flights moved being determined by the draw of initiative chits. If both sides have attacking forces or the scenario is designated air-to-air then the IAF player will be designated the scenario defender and will have initiative advantage.

### 5.1 The Chit Pool



The EAF and IAF players maintain a 'chit pool' consisting of numbered initiative chits, usually kept in a cup or other receptacle.

Chits are drawn from the pool during play. The chits are double-sided with a large force side and small force side. The player checks the value on the appropriate side. Players may not look at the chits while drawing. After a chit has been drawn and flights equal to the chit value have moved, it is immediately placed back in the cup.

### 5.2 Drawing Initiative Chits

**Design Note:** *The proximity of the radar network, ground observers and availability of ground control gives the defenders an edge. They get to choose to move first or second.*

At the beginning of the Movement Phase, before any chits are drawn, the scenario designated defender decides whether to move first or second. If the scenario designated defender moves second, the scenario designated attacker must move first. The player for the side that moves first draws an initiative chit from the pool. The chits are double-sided with a large force side and a small force side [5.22]. The resulting value is the number of *flights* (real or dummy) the player must move. The player may choose which flights to move and in which order. Once flights equal to the chit value have moved, play passes back to the other player who must draw a chit and move the requisite number of flights.

Play passes back and forth between the players until all flights on the map have moved. Drawing a "0" chit immediately passes play back to the other player without moving any friendly units.

No flight may move more than once per Movement Phase. If all flights on one side have moved, play passes to the other player who must move all remaining flights. (No chit draws necessary.)

#### 5.21 Non-Chit Pool Usage

For game turns where flights have not crossed the Suez Canal (either into Egypt or into the Sinai) or are at least 12 hexes or more from an enemy flight then no chit pull is required. The defender will move all of his flights and the attacker will move all of his flights. If at the start of any game turn, any flight has crossed the Suez Canal, enters the Sinai or enters the map west of the Suez Canal (IAF attack on Egypt) then a normal chit pull occurs.

#### 5.22 Large Force and Small Force Chit Pools

There are two chit pools; Large Force (10 or more flights) and Small Force (9 or less flights). All airborne flights (including dummies) and flights placed off-map in the previous Admin Phase count for the force pool size. All flights that start the turn on the ground are not considered for the force pool count until they become airborne (e.g. they will count towards your total during the next game turn).

**EXAMPLE:** *The IAF player has ten flights in play, he will choose from the Large Force pool. The EAF player has three flights, he will choose from the Small Force pool. The EAF player is the scenario designated defender and decides that the IAF player will go first. The IAF player draws a "3" initiative chit. He moves three IAF flights. Play passes to the EAF player. He draws a "0" chit. The EAF player does not move any flights and play passes back to the IAF player.*

*The IAF player now draws a "4" chit. He must move four IAF flights. (These can't be flights that have already moved.) The EAF player now draws a "1" chit, which means he must move a single EAF flight.*

*After the EAF flight has moved, the IAF player draws a "5" chit. However, he only has three unmovable flights remaining. So the IAF player moves the three IAF flights and immediately passes play to the EAF player. Since all the IAF flights have moved, the EAF player does not need to draw again. He just moves his remaining two flights.*

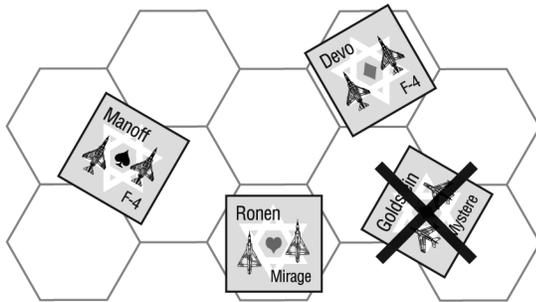


## 6. Movement

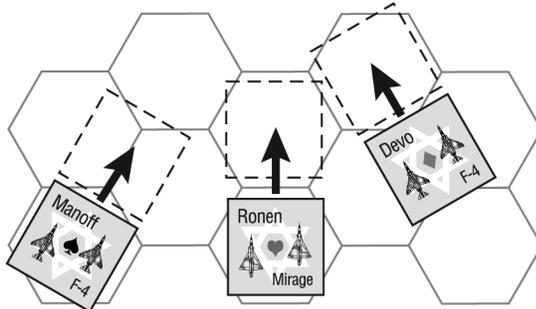
**Design Note:** When wargaming large-scale air battles, it's not necessary to portray the physics of flight or three-dimensional movement in detail. However, aircraft must keep moving or they will fall out of the sky, while altitude bands show how high above the ground they are.

### 6.1 Counter Placement

Flight counters are placed on the map either in the center of hexes, or on hexsides facing a hex corner.

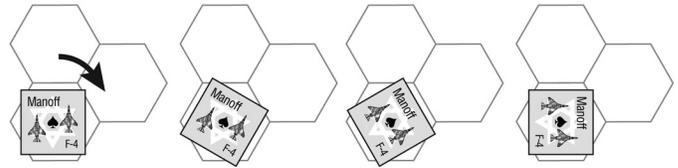


**Illustration:** Counter placement on the map. Note the leftmost flight is on a hexside, facing a hex corner. (In this picture its front edge overlaps the corner it is facing.) The rightmost flight is crossed out because it is not facing a corner.



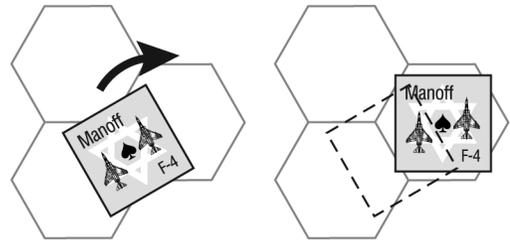
**Illustration:** Counters moving. The dashed box represents the hex or hexside they are moving to.

Turning alters facing. Each hex corner or hexside turned is an increment of 30 degrees.



**Illustration:** From left to right in this sequence, a flight turns 30, 60 then 90 degrees clockwise.

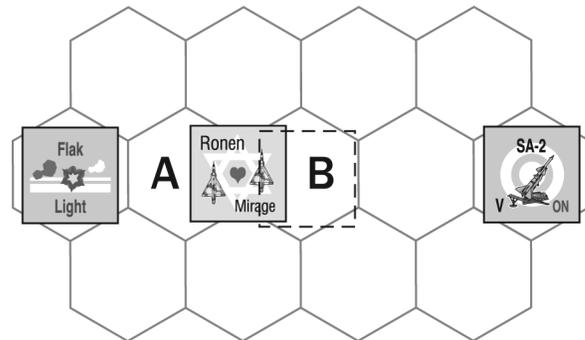
A flight that turns while occupying a hexside moves into the hex in the direction of the turn.



**Illustration:** A flight on a hexside turns 30 degrees clockwise. It moves into the hex in the direction of the turn, and is now facing 30 degrees away from its original heading.

### 6.12 Hexsides

For the purposes of combat and stacking, a flight occupying a hexside occupies *both* hexes sharing that hexside. Attacks against the flight can be made into either hex. When attacking a flight on a hexside, designate which hex the attack takes place in. Treat the flight as if it occupies that hex, without changing its location or facing. If a flight is forced to scatter [13.2] or perform SAM avoidance [15.33], immediately slide it sideways into the designated hex before scattering or avoiding.

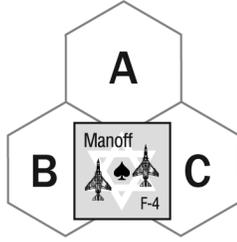


**Illustration:** Ronen flight occupies hexes A and B for the purposes of combat. It can be attacked in hex A by the flak barrage and in hex A or B by the SAM battalion. If an attack by the SAM into hex B results in SAM avoidance, the flight will slide into that hex, as indicated by the dashed outline.

Air-to-air attacks by a flight on a hexside can be made from either hex. If the attack results in an engagement slide the flight into the hex the attack takes place from.

Air-to-ground attacks can be made from a hexside (do not slide the flight) provided the target is not in either adjacent hex. (In

other words, flights can't bomb 'sideways'.)



**Illustration:** Manoff flight can make an air-to-ground attack into hex A ahead, but cannot bomb 'sideways' into B or C.

### 6.13 Altitude



Flights can fly in four altitude bands. From lowest to highest they are: Deck, Low, Medium and High. Mark the altitude of each flight by placing an Altitude marker on or near it.

## 6.2 Movement Points

**Design Note:** Speed determines how far a flight moves on the map. Combat throttle represents 'military power' – a high thrust engine setting. Dash throttle is maximum power, usually obtained by engaging afterburners.

Flights move in the Movement Phase by expending movement points (MP). A flight's total MP for the Movement Phase is known as its speed. A flight's speed is determined by its aircraft type, altitude and throttle selection.

The ADC lists maximum speed values in two columns for Combat and Dash throttle. Values are listed for each altitude band and for clean and laden flight. (Low band values are also used for aircraft flying on the deck.) Flights carrying air-to-ground ordnance or drop tanks are laden [16.21]. Aircraft use the speed value for the altitude band in which they begin the game turn. If no value is listed for an altitude band, the aircraft cannot enter or move in that band.

To move a flight, first decide whether to use combat or dash throttle. Then announce the flight's total MP before it begins to move. This MP total is the flight's speed for the game turn. The flight must expend all its MP when moving.

### 6.21 Combat Throttle

If combat throttle is selected, announce MP equal to the maximum combat speed, or one less than this number. A flight's speed may never be less than one MP.

**EXAMPLE:** If the maximum speed for Combat throttle on the ADC is 3, a speed of 2 or 3 MP can be announced.

On the game turn that landing begins a flight may announce MP between 1 and the maximum combat speed, inclusive [9.34].

### 6.22 Dash throttle

If dash throttle is selected, announce MP between the combat and maximum dash speeds, inclusive.

## 6.3 Movement

### 6.31 Movement Actions

Each of the following actions costs one movement point:

- **Move.** Move one hex straight ahead. On entering a hex the flight may do one or both of the following: (a) make a free turn up to the allowance indicated on the Turn Table [6.32]; (b) freely descend one altitude band.
- **Turn.** Turn up to the flight's maximum turn value. On completing a turn action the flight may freely descend one altitude band.
- **Climb.** Climb one altitude band (i.e., increase the altitude band by one). On completing a climb action the flight may make a free turn up to the allowance indicated on the Turn Table. Subsequent climbs in the same Movement Phase cost two movement points [6.33]. Flights that declared Anti-Radar Tactics [15.26] cannot climb.
- **Dive.** Dive to any lower altitude band (i.e., decrease altitude to any lower band). On completing a dive action the flight may make a free turn up to the allowance indicated on the Turn Table.
- **Special Attack.** Execute a toss bombing attack [17.34] or lofted ARM attack [17.52].
- **SAM Avoidance.** Perform SAM Avoidance [15.33].

Flights may climb and dive more than once in the same hex but may not expend MP to climb AND dive in the same hex.

### 6.32 Turning

**Design Note:** Jet speeds are so fast that aircraft describe circles in the sky many miles across. The turns represented by this rule are not the maximum performance turns of the dogfight battle but sustained formation turns.

The Turn Table lists a free turn allowance, based on the flight's speed that applies whenever a flight moves a hex, climbs or dives. On entering a hex or expending MP to climb or dive, a flight may freely change facing at no MP cost up to its free turn value. (Exception: not directly after making an air-to-ground attack [17.2].)

Speed (MP)	Free Turn	Max Turn
1-2	90°	180°
3-4	60°	120°
5+	30°	90°

If a flight turns greater than its free turn allowance in a hex at the same altitude band it must pay one MP [6.31]. The Turn Table lists the maximum amount an air unit can turn in a hex at the same altitude band, based on its speed. A flight cannot add this maximum to the free turn allowance; the maximum is the limit for all turning in that hex and altitude band.

Flights may not make consecutive turns in the same hex and altitude band. They must leave the hex or change altitude band before turning again.

A flight that begins its Movement Phase in a hex and altitude band it did not turn in during the previous Movement Phase may expend its first MP to turn up to its max turn allowance.

A flight that begins its Movement Phase marked with a Maneuver marker [6.35] is considered to have turned for the purposes of whether it may expend its first real MP to turn up to its max turn allowance (i.e., to remove the Maneuver marker a flight must expend half its MP (round up) and cannot do a max turn facing change on the next MP).

### 6.33 Zoom Climbs

**Design Note:** *Exceptionally steep climbs slow aircraft down and leave them vulnerable in combat.*

A flight that climbs twice or more in the Movement Phase is executing a zoom climb. The second and subsequent altitude bands climbed cost two MP, not one.

Laden flights and flights at combat throttle cannot zoom climb. Flights that have zoom climbed suffer combat penalties for the remainder of the game turn. The penalties apply from the moment the second climb takes place.

Defending flights that commence combat against a higher enemy are considered to have zoom climbed [11.24].

### 6.34 Ridgelines

Flights on the deck may not cross Ridgeline hexsides. (The hexside includes the corners of hexes touched by the Ridgeline artwork.) If forced to cross a Ridgeline as a consequence of scatter, treat it like the edge of the map [13.2].

### 6.35 Maneuver Markers

**Design Note:** *Maneuver markers represent the consequences of dogfight combat, where hard turns eat up speed and reduce movement.*



Maneuver markers are placed on flights after scattering in air-to-air combat (see [13.2] for exceptions). Do not place markers on flights already marked with Maneuver markers.

A flight that begins movement with a Maneuver marker must expend half its MPs (round fractions up) to remove the marker before it expends any other movement points.

### 6.36 Entering and Exiting the Map

It costs one MP to enter the map. However, players may elect to expend more MPs to enter if they wish (so as to stagger the entry of flights, for example).

Flights exit by moving off the map edge at a cost of one MP.

## 6.4 Stacking

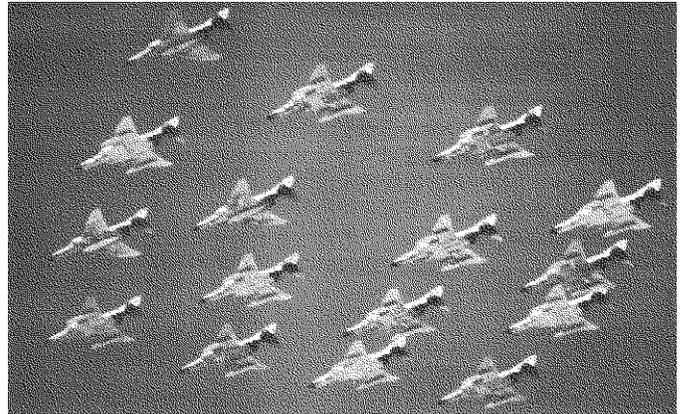
**Design Note:** *Some aircraft units take up a lot of airspace. For example, Combat Air Patrol flights are spread 2.5 miles from wingtip to wingtip. To prevent collisions, doctrine requires that flights maintain separation.*

Stacking occurs when a flight occupies the same hex and altitude band as another friendly flight. Flights occupying hexsides are

stacked with flights in both hexes [6.12], but not with flights on different sides of the same hex. Stacking is permitted during movement to allow flights to move through each other. But a flight's last movement point cannot be used to stack it with another unit.

### 6.41 Stacking Exceptions

Stacking is allowed when a flight enters another flight's hex and altitude as a result of scatter or SAM avoidance, or it halts in place as a result of combat. Defensive Wheels permit stacking with friendly flights [7.1]. Flights may stack with enemy flights without restriction.



## 7. Formations

Flights may fly in special formations during movement. A formation is a state that provides special benefits.

### 7.1 Defensive Wheel

**Design Note:** *In the defensive wheel aircraft fly in a circle so that each aircraft covers the tail of the one in front. Wheels are used as 'bait' to draw in enemy fighters, or to loiter in wait for passing enemies as well as provide a means of defensive cover.*

#### 7.11 Entering Defensive Wheel



Only a non-disordered clean EAF MiG-17 or clean IAF Ouragan/Mystere IV flight may enter a defensive wheel formation at the beginning of the Movement Phase, before any other flights move. Place a Defensive Wheel marker on the flight. Only a dummy or a flight comprising of two or more of the allowed aircraft type may form a defensive wheel. If a defensive wheel is reduced to a single aircraft, the Defensive Wheel marker is removed. Multiple flights may enter a defensive wheel and stack in the same hex and altitude. Additional flights (up to a maximum of eight aircraft in the wheel) may subsequently join the formation at the instant they enter the hex at the same altitude.

Flights in a defensive wheel do not expend MP. The player cannot move flights in defensive wheels or count them toward the number of flights moved for initiative purposes.

### 7.12 Defensive Wheel Benefits

Flights in a defensive wheel have no heading. All arcs are treated as the forward arc for combat purposes and the flight is at combat throttle while in the wheel.

Flights in a wheel never suffer the penalties of disadvantage and attackers can never claim surprise against them [11.43]; they do not scatter and cannot be marked with a Maneuver marker. However, if a flight exits the wheel as a result of becoming disordered in combat it is scattered and marked with a Maneuver marker [13.21].

In air-to-air combat an attacker rolls once to engage all the flights in a defensive wheel and can split shot opportunities between different target flights in the stack. (Declare targets before resolving the shots.) Regardless of the number of flights in a wheel, a wheel rolls once on the Maneuver Table for shots against the enemy.

### 7.13 Exiting Defensive Wheel

Flights may exit a defensive wheel formation at the beginning of any Movement Phase, before any flights on the map move. To exit, remove the marker from the flight(s). Each flight may face in any heading desired. The flight may move in that Movement Phase.



## 8. Raid/Task Planning

**Design Note:** Raids are carefully planned operations, comprising many aircraft. Missions define which air units enter the map together. Tasks define what units do during raids. Navigation defines the path the raid's bombers take.

### 8.1 Missions

A mission is an organizational term for a group of units that are plotted to enter the map together. A raid comprises several missions. A mission may include flights with different tasks. Missions are listed in the Order of Battle tables.

The mission type describes in general terms the primary role of the units in that mission. Types of missions include: Strike Missions, Egrof (SEAD) Missions, Jamming Missions, Recon Missions and CAP.

### 8.11 IAF Ingress and Egress Hexes

Each IAF raid that starts off-map has an ingress and egress hex plotted on the Planning Map. Ingress and egress hexes may be any legal map edge available for that scenario, normally the north and/or east map edge. (They do not have to use the same point for ingress and egress.) All flights in a raid enter the map within two hexes of their ingress hex. All flights do not have to enter at the same time or on the same game turn. IAF flights that exit more than five hexes from their egress hex must make a recovery roll [20.2].

### 8.12 EAF Ingress and Egress Hexes

Each EAF raid must have an ingress and egress hex plotted on the Planning Map. For most raids, the EAF ingress hex will be its launch airfield, however, as an alternative option the EAF player may pick any hex within 6 hexes of a launch airfield (used by the Bombing/Recon flight or Close Escort flight) as its ingress hex and setup the Bombing/Recon flights airborne with any Close Escort flights within 4 hexes of the Bombing/Recon flights [8.34]. EAF egress points must be their launch airfield unless the aircraft is crippled or damaged in which case they may attempt to land at any major or minor airfield available to their side.

**NOTE:** EAF ingress hexes may never be located in the Sinai or a water hex of any kind unless specifically allowed by SSR.

## 8.2 Tasks

**Design Note:** Each flight in a raid has a specific job to perform, as reflected by their tasking.

Flights are assigned tasks that determine their behavior for the raid. Note tasking on the flight log in the Planning Phase.

Tasks are listed below. The air-to-ground entry lists the ground targets the flight is allowed to attack. If 'none' is listed, the flight may not attack ground targets. If the air-to-air entry lists 'attack and defend' the flight may freely attack or defend against enemy flights. If it lists 'defend', the flight may not initiate an attack in air-to-air combat.

**Clarification:** Required Jettisoning Ordnance is different than using ordnance. Strafing usually would occur after all other ordnance is expended. Jettison is different than dropping your bombs in anger. So if you jettison due to enemy attack/SAMs then you are done (Abort) but if you bombed the target and failed to damage/destroy it and want to do a strafing pass at the risk of getting shot down, then you can do that.

<b>Task</b>	<b>Behavior</b>
<b>Bombing</b>	<p><i>Air-to-Ground:</i> Raid targets in the target hex; also AAA concentrations, <i>Fire Can</i>, <i>Gun Dish</i> and HAWK/SAM targets in or adjacent to the target hex.</p> <p><i>Air-to-Air:</i> Defend.</p> <p><i>Other Behavior:</i> Must abort if ordnance jettisoned prior to the target.</p>
<b>SEAD (Egrof)</b>	<p><i>Air-to-Ground:</i> SAM battalions, AAA concentrations and <i>Fire Can/Gun Dish</i> units.</p> <p><i>Air-to-Air:</i> Defend.</p> <p><i>Other Behavior:</i> Must abort when all ordnance is expended or jettisoned.</p>
<b>CAP</b>	<p><i>Air-to-Ground:</i> None.</p> <p><i>Air-to-Air:</i> Attack and Defend.</p> <p><i>Other Behavior:</i> Must abort when all air-to-air weapons are depleted.</p>
<b>Armed Escort</b>	<p>Only IAF flights may perform this task.</p> <p>The flight is tasked with Egrof. However, if all ordnance is expended or jettisoned the flight does not abort. Instead its task changes to a CAP task.</p>
<b>Close Escort</b>	<p><i>Air-to-Ground:</i> None</p> <p><i>Air-to-Air:</i> Attack and Defend.</p> <p><i>Other Behavior:</i> Must abort when all air-to-air weapons and ordnance are depleted or expended.</p>
<b>Recon</b>	<p>Only Recon-capable flights may fly this task.</p> <p><i>Air-to-Ground:</i> None.</p> <p><i>Air-to-Air:</i> Defend.</p> <p><i>Other Behavior:</i> Conducts reconnaissance of target hexes.</p>
<b>Jamming</b>	<p>Only aircraft with Standoff Jamming capability may fly this task.</p> <p><i>Air-to-Ground:</i> None.</p> <p><i>Air-to-Air:</i> Defend.</p> <p><i>Other Behavior:</i> Must abort if damaged.</p>
<b>Strike/CAP</b>	<p>Only IAF F-4E/Mirage IIICJ and EAF MiG-21 flights may perform this task.</p> <p>The flight is tasked with Bombing. However, if all air-to-ground ordnance is expended or jettisoned the flight's task changes to a CAP.</p>

### 8.3 Flight Navigation

Flights tasked with Bombing and Recon are restricted in how they move. They must follow a path defined by waypoints on the map.

#### 8.31 Flight Path

Each raid has a flight path. This is a series of imaginary straight lines drawn on the map that connect to make a path. The flight path starts either from an airfield, an airborne location or on the map-edge in the ingress hex for the bombing and recon flights [8.11, 8.12] and ends on the airfield or the map-edge in their egress hex. At some point the flight path must pass through the hex containing the raid's target. By drawing a straight line from the ingress hex to the target, then another line from the target to the egress hex, the flight path can be drawn in a 'join-the-dots' fashion.

One to six waypoints can be added to a flight path. Waypoints may be inserted into the flight path to create 'doglegs' in the path. Adding a waypoint between two existing points on the map (such as the ingress hex and target) 'bends' the line to that waypoint. Draw a straight line on the Planning Map from the first point to the waypoint and then another straight line from the waypoint to the next point.

**EXAMPLE:** A waypoint is inserted between the target and egress hex. The flight path is now drawn as a straight line from target to waypoint, and as another line from waypoint to egress hex.

Plot the flight path and all waypoints on the Planning Map in the Planning Phase.



**Illustration:** This raid is plotted to attack a target at Jamil-Port Said (marked with a triangle). The raid enters at hex 7829 and flies a series of dog-legs to a point west of the target (waypoints marked with a 'O'). The raid then attacks and takes the route back to egress at hexspine 7833/7834.

#### 8.32 Navigating the Flight Path

Flights tasked with Bombing or Recon follow the raid's flight path, from ingress hex to target hex to egress hex. For the purposes of navigation, the ingress, target and egress hexes are treated as waypoints.

Bombing and Recon flights start within two hexes of the ingress hex. They must fly direct to their next waypoint, following the line plotted on the Planning Map. No flight may intentionally stray more than two hexes from this line.

Each hex moved into must be closer to the next waypoint than the last hex. When a flight moves within two hexes of a waypoint it has ‘reached’ that waypoint—it must begin moving to the next waypoint in order. Again, the flight must follow the line projected between these two points.

If a Recon flight has become disordered, it may resume its mission on removal of the Disordered marker at a Rally point and then rejoin the flight path at its nearest waypoint. [8.51, 13.11].

### 8.33 Target Hex

Within two hexes of the target, Bombing and Recon flights move freely, without restriction. They must return to the flight path when they leave the vicinity of the target.

### 8.34 Other Tasking

Flights tasked with Armed Escort, CAP, Jamming, or SEAD do not have to follow the flight path and may move freely, without restriction.

Flights tasked with Close Escort are dedicated to a specific bombing flight or flights and must stay within four hexes of the bombing flights they are escorting until they detect an enemy flight either visually or by radar, or they are engaged themselves. Once this occurs their mission becomes CAP including if they stray outside four hexes from their bombing flights.

Close escort flights must end their movement within 4 hexes of their bomber/recon flight. The close escort can change to CAP as soon as there is a detected enemy flight within movement range of the close escort. If they couldn’t move to engagement range then they must stay within Close Escort range.

### 8.35 Multiple Target Hexes

A scenario may specify that a raid must attack multiple targets spread across more than one hex.

Plot a single flight path. It must pass through at least one target hex, but does not have to pass through all of them (though it is recommended the flight path pass close to all of them). Within two hexes of any target hex, Bombing and Recon flights may move freely, without restriction.

### 8.36 Multiple Raids

Some scenarios may specify that there are multiple raids on the map at the same time. Each raid has a different target and plots a separate flight path from the other raids.

## 8.4 Flight Abort

**Design Note:** *Sometimes flights ‘abort’ or break for home and safety. If the abort movement restrictions prove unreasonably restrictive, feel free to loosen them, provided the spirit of the rule is maintained: aborted flights are making a run for it.*



Flights abort as a consequence of morale, random events, damage, lack of ordnance or depletion of air-to-air ammunition (which includes guns). The player may choose to abort a flight at any time. Note the abort state on the flight log sheet. Optionally, use an Abort marker to mark the flight.

Any flight that aborts may move freely, unrestricted by the flight path rules. Aborted flights cannot initiate air-to-air combat or

conduct air-to-ground attacks. There are no specific restrictions on aborted flight behavior because there are too many variables that would influence it, but an aborted flight should avoid all combat and attempt to land at an airfield [9.34] or if an IAF flight may exit the east or north map edge back to Israel.

## 8.5 Advanced Navigation Rules

### 8.51 Rally Point

**Design Note:** *If aircraft become separated from a flight due to disorder, they can head for a pre-planned rally point near a landmark where the flight can reform.*

The player may plot a Rally Point for each raid. Rally Points may be plotted in any hex containing Rough or Urban terrain, or part of a River. Additionally all friendly open airfields may be used as Rally Points.

Rally Points must be at least 10 hexes from the raid’s target hex and this may eliminate a friendly open airfield as a legal rally point for that raid. CAP aircraft are exempt from this rule. Rally Points modify disorder recovery rolls [13.11].

### 8.52 Orbit Points

**Design Note:** *Orbit points are assembly areas where CAP fighters can wait until ground controllers vector them to their targets.*

Orbit points are any hex within 3 hexes of a friendly active airfield. The players use these orbit points to set up airborne CAP flights at the beginning of a scenario and the active airfield used as the basis of an Orbit point may also serve as a Rally Point [8.51]. Players may also be given CAP setup instructions by SSR.

### 8.53 Plotting Altitude

**Design Note:** *In the standard rules bombers can change altitude freely. In reality they fly at pre-plotted altitudes and do not vary their height unless planned to.*

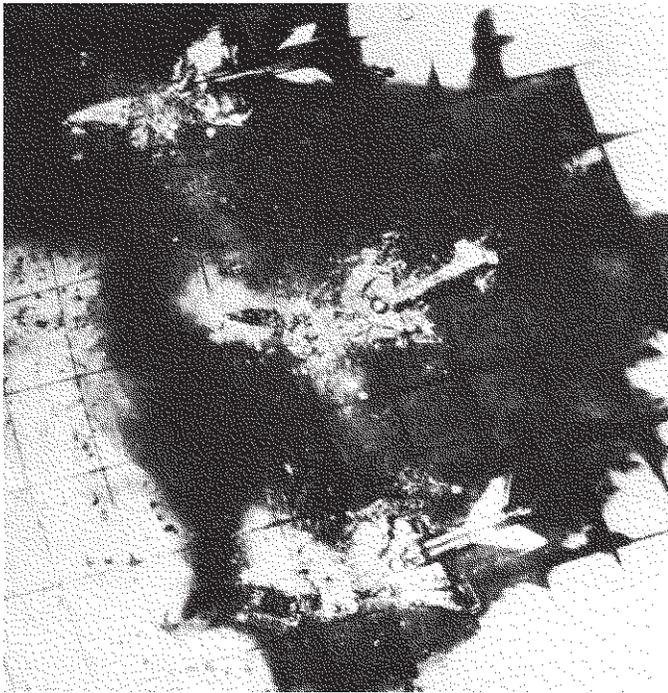
When plotting the raid the player must note the altitude band used by all Bombing-tasks flights and the flight path hexes in which the altitude band changes. Bombing flights must fly at the plotted altitudes, climbing and diving as necessary to match any changes in the plot.

A flight cannot deviate from the plotted altitude until one of the following trigger events occurs:

- a. The flight aborts.
- b. The flight performs SAM Avoidance [15.33].
- c. The flight performs Anti-Radar Tactics [15.26].
- d. The flight participates in air-to-air combat.

From this point on the flight may change altitude freely. Bombing flights may freely change altitude within two hexes of the raid’s target.

**Design Note:** *CAP fighters are under the command of ground controllers who direct them to intercept enemy flights. Under ground control, CAP flights can fly without the navigation or combat restrictions of raids.*



## 9. Airfield Operations

### 9.1 Airfields

There are two types of airfield: major and minor. A player can have air units on the ground at airfields. Flights on the ground are always undetected.

Major airfields may launch and recover any number of aircraft during a scenario. EAF minor airfields may launch and recover up to 2 flights if they are “open”. Otherwise a minor airfield may only recover one flight per scenario as an emergency landing field to avoid possible flight loss from fuel depletion or combat damage.

Major airfields are marked with runway direction [9.13]. Minor airfields are always considered open as emergency landing fields even if not listed open for a scenario. If an airfield has a date next to it, it does not exist prior to that year.

### 9.11 Airfield Operations

Flights can take off from and land at airfields. Airfields allow the takeoff and landing of one flight per turn. Airfields may not be used for takeoffs and landings in a single turn.

Airfields are ‘open’ or ‘closed’. The scenario will indicate which airfields are open. Flights may only take off and land at open airfields. Airfields become closed the moment an attack **achieves Slight damage or more** against the runway target in the airfield’s hex [17.42].

### 9.12 Flights on the Ground

**Design Note:** Ready flights are sitting on an airfield runway, ready to take off. Unready flights are positioned on an airfield taxiway or apron and are not able to take off. Revetted aircraft are in bombproof revetments. The Israelis were able to service their aircraft much faster than their adversaries to get them back in the air providing them more capability with their airpower

Flights may begin a raid on the ground at an airfield. Flights on the ground may not move except to takeoff.



Flights on the ground are in one of three states: “ready”, “unready” and “revetted”. More than one flight may be ready at an airfield with all other flights unready or in revetments. Revetted and unready flights take 10 (IAF) or 20 (EAF) game turns to be made ready. Commencement of readiness is noted in the Admin Phase; the flight is ready on the 10th or 20th Admin Phase after commencement, as appropriate.

Ready flights may be made unready at any time. Just-landed flights are unready.

Unready flights take five game turns to move into revetments. Note the flight is moving into revetments in the Admin Phase. It enters revetments on the 5th Admin Phase following commencement.

Mark ready and unready flights with Ready, Unready and Revetment markers. Ready and unready flights are Target Profile D; flights in revetments are Target Profile B [17.13] or Target Profile A if in a Hardened Aircraft Shelter (HAS). Any number of flights may be in revetments at an airfield. Any damage to a flight on the ground means that it cannot take off or fly for the remainder of the raid.

**OPTIONAL RULE:** A player does not place any flights at airfields on the map. Instead he keeps readiness information secret from the other player on a scrap of paper. Only when a flight takes off does a counter appear on the map. However, if the player is within one hex of the airfield and has a line of sight to it [22.1] all air units there are placed on the map.

### 9.13 Takeoff

Ready flights (including dummies) may take off in any Movement Phase. Place the flight on the airfield flipped to its undetected side. It must be facing in the direction of one of the runways printed on the edge of the airfield hex or either east or west if on a minor airfield

On the first turn of movement, the flight remains on the airfield hex and is marked with a Deck Altitude marker. The flight may not initiate air-to-air combat on the first turn of movement. On the second turn of movement, the flight moves a number of MP equal to half (round up) of its speed. On the third and subsequent turns of movement the flight may move normally.

### 9.14 Landing

It takes three game turns to land. Once landing has begun the procedure cannot be stopped or interrupted unless the flight is attacked, in which case it recommences normal movement.

To begin landing the flight must be on the deck and at combat throttle. On the game turn landing begins the flight may select any speed between 1 and their maximum combat speed [6.21]. The flight must end movement in a hex adjacent to the airfield, with the airfield in its forward arc, and pointed in the same direction as one of the airfield’s runways.

Next game turn, instead of regular movement, the flight advances into the airfield hex, without changing altitude. On the following turn, instead of regular movement, it lands. A flight that has landed is unready and must be made ready before it can take off again in that scenario.

### 9.15 Maneuver Restriction (Takeoff/Landing)

**OPTIONAL RULE:** Flights have their maneuver ratings reduced to 1 while taking off and landing. The penalty lasts from the moment takeoff commences and the flight is placed on the map until the end of the second movement phase of flight [9.13]. It lasts from the moment landing begins until the aircraft is on the ground [9.14].



## 10. Detection

**Design Note:** The detection of enemy flights is vital to combat. Detection is the product of many factors, from radar tracking to visual observation to signals intelligence.

### 10.1 Detection States

**Design Note:** Detected units have been located and friendly units alerted to their presence. Undetected units are not necessarily 'invisible'. They could equally represent fleeting contacts or the products of garbled radio calls.

Flights are either detected or undetected. Mark undetected flights by flipping the flight counter to its undetected side (with the "?"). A detected flight is flipped to its detected side (with the heart, spade or diamond icon).

### 10.11 Detection Levels

**Design Note:** The EAF detection levels represent the network of early warning radars and ground observers across Egypt. IAF detection levels represent radars and ground observers across the Sinai and Israel. Over time both countries' detection capabilities improve with the introduction of new equipment that could better track enemy aircraft, and real-time signals intelligence tracking enemy radio transmissions.

The IAF and EAF each have a detection level, lettered from A (best) to F (worst). The detection level may be column-shifted (i.e., from A towards F) by random events.

### 10.12 GCI Level

**Design Note:** GCI stands for Ground Controlled Intercept, the system of commanding jets from the ground. Ground controllers can only handle a limited number of aircraft at a time.

Both players have a GCI level specified in the scenario. For each CAP flight in the air greater than that sides GCI level, shift the detection level one column to the right. Detection levels may not be column-shifted past F. Dummy and aborted flights do not count as flights for this purpose.

**EXAMPLE:** The EAF Detection level is B. The GCI level is 3. If four EAF flights and two dummy flights are in the air, reduce the detection level to C (not E, because dummies don't count).

**OPTIONAL RULE:** Because GCI level gives the other player information on the number of real flights the player has in the air, a player can disguise this by rolling secretly for detection and track.

## 10.2 Detecting Flights

Each Detection Phase both players roll two dice for each undetected enemy flight on the map and consult the Detection Table. Use the column corresponding to the player's detection level and modify the roll depending on whether the detection attempt is being made against an IAF or EAF flight.

**EXAMPLE:** The IAF player's detection level is C. He rolls on the C column to detect EAF flights, applying the Modifiers vs. EAF flights.

The result will be no effect (the flight remains undetected), or detection. Flip detected flights to their detected side. If the detected flight is a dummy, remove it from the map [4.12].

In addition to regular detection rolls, players may make visual sighting attempts and radar searches (IAF only) against enemy flights.

### 10.21 Visual Sighting

**Design Note:** Under GCI control, fighters are directed towards known radar contacts. However, aircraft are forced to keep a constant, sharp lookout for trouble. This is represented with a separate die roll.

A player makes an additional detection roll for each enemy flight within 4 hexes and Line of Sight [22.1] of a non-disordered friendly flight. Choose an eligible friendly flight to make the sighting attempt. Roll on the Visual (Vis) column and apply the Visual Sighting Modifiers. Make only one visual sighting attempt per enemy flight in each Detection Phase regardless of the number of friendly flights eligible to sight.

Do not roll for visual sighting at night [23.12]. Disordered or aborting flights may not attempt visual sighting.

### 10.22 F-4 and Mirage Search Radar

**Design Note:** *The F-4 Kurnass has a powerful air search radar that can pick up enemy aircraft at great distances. The Mirage also has an air search radar but it was prone to malfunction and was very limited in capability.*

The IAF player makes an additional detection roll for each EAF flight within 12 hexes (F-4) or 5 hexes (Mirage IIICJ) and the forward arc of a non-disordered flight. (Exception: RF-4Es may not radar search.) Choose an eligible IAF flight to make the search attempt. Roll on the Radar column and apply the F-4/Mirage radar search modifiers. Make only one radar search attempt per EAF flight in each Detection Phase regardless of the number of flights eligible to search.

If Lookdown applies [10.23], a flight cannot radar search.

### 10.23 Lookdown

**Design Note:** *The early pulse radars cannot detect targets near the ground, hidden in the ground clutter.*

Lookdown applies if the target is at an altitude band below that of the searching flight.

Lookdown also applies if the target is at Low band or on the deck and the flight is at the same altitude.

If the flight is over a land hex, the flight can be in the High band to search for other High band targets and Medium band to search for other Medium band targets. Otherwise, the flight must be at least one band below the target to search. (Exception: If the flight is over a water hex — to include a Suez Canal water hex — and the flight is in the High Band, they may search down to Medium band.)

Lookdown affects BVR Missile shots [11.53].

### 10.24 Jamming

Detected IAF/EAF flights with defensive jamming capability [19.2] must be indicated to the other player. If jamming is lost for any reason, that must also be indicated.

## 10.3 Track Phase

**Design Note:** *A detected target can be lost as a result of radar or communications failure. Low altitude flight can mask aircraft from detection, particularly over hill terrain.*

In the Track Phase, all detected flights on the deck in Rough terrain become undetected. Flip detected flight counters over to their undetected side.

Each player then rolls two dice and consults the Track Table, using the column corresponding to their detection level. The result on the table will be no effect, or one or more symbols: a heart, spade and/or diamond.

Each detected flight counter has a heart, spade or diamond printed on it. If a symbol is rolled, all enemy detected flight counters with matching symbols become undetected and are flipped over to their undetected side.

If the result is in {curled brackets} apply it to any flights on the Deck and any IAF flights at Low altitude over the Sinai and any

EAF flights at Low altitude over Egypt, Suez Canal or water hexes do not count towards either case if a flight is at Low altitude.

See rule [2.22] for clarification on whether a hex is considered a water hex or not.

## 10.4 Visual Identification

Flights use generic flight counters [4.11] until they are visually identified, at which point they are replaced with the actual flight counter. Flights are visually identified if one of the following events occurs:

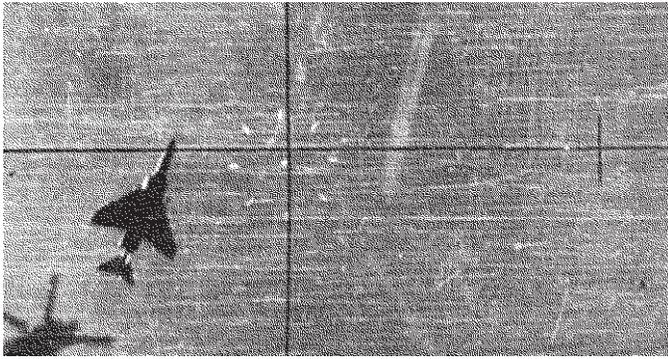
- The flight enters air-to-air combat [11.3]. (Exception: Does not apply to BVR Missile attacks [11.53].)
- Flak barrage or a *Fire Can/Gun Dish* unit attacks a flight and there is a Line of Sight from the ground unit to the air unit. (AAA Ambush random events [21] do not result in visual identification.)
- A SAM unit within two hexes attacks a flight and there is a Line of Sight from the SAM to the air unit.

Successful visual sighting rolls [10.21] do not result in visual identification. Visual identification does not result in detection: undetected units can be visually identified and yet remain undetected. Flights cannot be visually identified at night [23.13].

### 10.41 Effects of Visual Identification

Once visually identified the flight uses its actual counter for the remainder of the scenario. Replace the generic counter with the flight counter set to its detected or undetected side, as appropriate. The flight counter and generic counter suit icons do not have to match [4.11].

Identified flights no longer generate dummies [4.13]. The owner of the identified flight must give Visual ID information to his opponent [4.22].



## 11. Air-to-Air Combat

**Design Note:** *Air-to-air combat in this theater of battle is primarily visual range 'dogfighting' with guns and missiles.*

Flights may attack enemy flights in air-to-air combat. A flight must first engage an enemy flight. If successful it can then maneuver for a shot. Shots are resolved to determine damage.

### 11.1 Air-to-Air Weapons

#### 11.11 Weapon Classes

**Design Note:** *Guns are rapid-fire cannon, useful at very short ranges. IRM are infrared-guided missiles, a short range weapon. RHM are radar-guided missiles designed for medium range but often used close-in.*

The ADC lists the types of air-to-air weapon an aircraft can carry. There are three classes of air-to-air weapons: Guns, IR Missiles (IRM) and Radar Homing Missiles (RHM).

#### 11.12 Air-to-Air Loadout

Some ADCs list multiple air-to-air weapons. Flights may carry one type of each class of weapon, so a flight may never carry more than one type of IRM, RHM and Gun. Choose weapons in the Planning Phases when selecting aircraft to be used during the scenario [3.1].

**EXAMPLE:** *In an October 1973 scenario an IAF F-4E (Kurnass) flight has the choice of AIM-9B, D or Shafrir II IRM, and the choice of AIM-7E-2 RHM. The AIM-9D is selected as the flight's only IRM type and the AIM-7E-2 as the flight's RHM type.*

A weapon that depletes its ammo can't be used for the rest of the scenario. The flight no longer has that weapon type.

#### 11.13 Combat Values

**Design Note:** *As the war draws on, IAF forces see a general improvement in missile effectiveness. In spite of this, missiles continually fail to perform at low level where ground clutter interferes with their guidance. Reliance upon the gun as a primary weapon continues in those situations.*

Each weapon has a combat value listed in the Air-to-Air weapon charts on the ADCs.

IRM and RHM combat values are reduced to zero if used to shoot a target on the deck. AIM-7 and Matra 530 missiles used in BVR Missile attacks [11.53] have a combat value of zero.

## 11.2 Engagement

**Design Note:** *To initiate combat an attacking flight has to spot an enemy and maneuver into an attack position. If a defender fails to spot the enemy or react in time they may be jumped on by surprise and be in a disadvantaged position. Most air-to-air kills are the result of surprise.*

Flights may attempt to attack an enemy flight at any point during their movement. The moving flight is the attacker and the non-moving flight is the defender. Engagement must be rolled to determine whether combat can begin [11.22].

A flight may not engage more than once per Movement Phase (Exception: it may make a BVR missile attack, then engage in air-to-air combat against the same unit [11.53]). However, if the attacking flight fails to engage it may try to attack another flight in a different hex or altitude band later in that Movement Phase.

### 11.21 Prerequisites

A flight may not attack in air-to-air combat unless it has moved at least one hex or changed altitude in the Movement Phase. The following additional conditions must be met:

- The attacker must have an air-to-air weapon. (Depleted weapons can't be used in combat.)
- The defender must be detected.
- The defender must be within one hex (inclusive) of the attacker and in the same altitude band, or the band immediately below.
- If in different hexes, the attacker must have the defender in its forward arc. (Arcs do not prevent engagement if the flights are in the same hex.)
- The attacker must not be disordered, aborted, have performed a SAM Avoidance maneuver [15.33] or declared Anti-Radar Tactics [15.26] in the current turn. Flights may not attack if all aircraft in that flight are damaged/crippled.

### 11.22 Engagement Roll

If the prerequisites have been met, the attacker and defender make separate engagement rolls. The engagement value used for the roll is shown on the Engagement Table and is based on the detection status of the enemy flight and whether it is day or night. If a flight has no Line of Sight to the target [22.1], use the night values.

**EXAMPLE:** *An undetected IAF flight is attempting to engage a detected EAF flight during the day. The IAF rolls against the daytime detected engagement value. The EAF rolls against the daytime undetected value.*

Roll two dice on the Engagement Table and modify as indicated. If the result is equal to or greater than the engagement value, the flight engages the enemy.

### 11.23 Engagement Roll Modifiers

Aggression and disordered formation modifiers apply to the flight making the roll. Target modifiers are applied to the enemy flight. Night-related modifiers are applied to both flights.

## 11.24 Engagement Results

There are four possible results of the engagement roll:

- a. If the attacker engages but the defender does not, combat commences. The attacker has surprise and the defender is disadvantaged. Move the attacking flight to the defender's altitude band.
- b. If attacker and defender both engage, combat commences but there is no surprise or disadvantage. Move the attacking flight to the defender's altitude band.
- c. If neither attacker nor defender engages no combat takes place (do not resolve combat or post-combat effects) and the attacker continues its movement.
- d. If the defender engages but the attacker does not, the defender can choose to commence combat. If combat begins move the defending flight to the attacker's altitude band; if the attacker is higher, the defender is considered to have zoom climbed [6.33]. There is no surprise or disadvantage.

The defender cannot commence combat if it has no air-to-air weapons, is disordered; aborted; is marked with a Maneuver marker, or participated in air-to-air combat earlier in that Movement Phase.

If the defender does not begin combat, treat as result c. above – no combat takes place.

## 11.25 Surprise and Disadvantage

The engagement roll may give the attacker the advantage of surprise and bonuses in combat. The defending flight may start the engagement disadvantaged, resulting in penalties to combat and morale.

A flight can jettison its air-to-ground ordnance or drop tanks prior to combat being rolled, so as to permit the use of its clean maneuver values [16.23]. Disadvantaged flights cannot jettison.

Defensive Wheels never suffer disadvantage penalties and attackers can never claim surprise against them [11.43].

## 11.3 Combat

If combat commences as a result of engagement, it uses up all the attacking flight's remaining MPs. (Exceptions: Slash attacks [11.52]; BVR Missile shots [11.53].) All flights involved in a combat are visually identified [10.4], except at night [23.13].

### 11.31 Maneuver

**Design Note:** *To shoot, a flight has to maneuver into a good shooting position, usually right on the enemy aircraft's tail. This is difficult if the enemy is maneuvering to avoid the shot.*

Each attacking and defending flight in a combat rolls for maneuver. (Exception: Defensive Wheels roll once, regardless of the number of flights in the wheel.) Roll two dice, modify as indicated and consult the Maneuver Table, cross-referencing the roll on the Air-to-Air Column with the number of undamaged aircraft in the flight.

Always use the 1 aircraft column if:

- a. Rolling for a Defensive Wheel [7.1, 11.43].
- b. The flight is disordered [13.11].
- c. The flight is making multiple attacks [11.51].
- d. The flight is an attacking 2-ship under Soviet Doctrine [11.32]

The value obtained from the Maneuver Table is the number of shot opportunities the flight has. Shot opportunities are resolved using the shot resolution system [11.33].

If a flight has no air-to-air weapons it may not roll for maneuver or take shots at enemy flights.

### 11.32 Soviet Doctrine

**Design Note:** *Soviet Doctrine called for quantity over quality in air-to-air combat. Aerobatics and individual initiative was not encouraged or emphasized in training. Formations were flown within strict parameters hampering their air-to-air effectiveness. However, on defense, shots of opportunity present themselves more readily as multiple attackers may overshoot or fail to engage their targets*

EAF flights use the 1 Maneuver column for each 1 or 2-ship and the 2 Maneuver column for each 3 or 4-ship when they are the attacker (i.e. EAF initiates an engagement). EAF flights use the Maneuver column for the actual number of aircraft if they are the defender in an engagement (i.e. IAF initiates the engagement). This doctrine applies to all EAF or Russian flights in scenarios set before 1973.

### 11.33 Shot Resolution

**Design Note:** *Deficient training and unreliable weapons may mean that few shots ever hit. Aircraft with multiple weapon types may let fly with everything they have.*

To resolve a flight's shot, select an air-to-air weapon to shoot with, roll two dice and modify before consulting the Shot Resolution Table.

Shots are resolved in any order as determined by the players. Allocate and apply damage [12.1, 12.2] after all shots have been rolled. A player may refuse to roll for a shot if he wishes.

**EXAMPLE:** *An F-4 flight has two shots. The first succeeds in shooting down the last aircraft in an enemy flight. The second shot can be refused.*

### 11.34 Ammo Depletion

**Design Note:** *A shot can represent one missile or all of a flight's missiles. Sometimes pilots would fire off their entire weapon load trying to get a kill.*

After all shots in a combat have been resolved, roll one die for each flight that resolved a shot. (Roll per flight that took a shot and NOT per shot taken.) If a flight resolved multiple shots, subtract one from the roll for each shot after the first.

Look up the depletion number of the weapon used to shoot (if more than one weapon was used to shoot, select the one with the

highest depletion number). If the result is equal to or less than its depletion number, that weapon is depleted and can no longer be used in combat [11.12].

If the modified result is 1 or less, a second weapon (if the flight has one) is also depleted. This may be any other non-depleted air-to-air weapon carried by the flight.

## 11.4 Special Combat Rules

The following rules cover special combat situations.

### 11.41 Disengagement

Prior to the maneuver rolls the defending flight can elect to disengage. Disengaging flights do not roll for maneuver and take no shots. Flights attacking a disengaging unit apply a modifier to their maneuver roll.

Disengaging flights do not scatter and are not marked with a Maneuver marker after combat [13.24]. They apply a modifier to their Morale Table roll.

### 11.42 Climbing

**Design Note:** *Aircraft that climb into combat are at a significant disadvantage.*

Decrease a flight's maneuver rating [2.81] by one if it climbed that Movement Phase. Decrease the rating by two instead if the flight zoom climbed [6.33]. A flight's maneuver rating may never be less than zero.

### 11.43 Defensive Wheels

**Design Note:** *The Defensive Wheel is not an offensive formation, allowing no more than one aircraft a shot at any passing enemy, but it is difficult to catch at a disadvantage.*

Defensive Wheels [7.1] engage and fight as if they were a single unit. When rolling to engage, roll once for all flights in the wheel. If successful, roll once on the Maneuver Table, using the 1 column [11.31]. Attackers may not claim surprise against Defensive Wheels [11.25]. Units in a Defensive Wheel do not suffer disadvantage penalties and do not scatter [13.21].

## 11.5 Advanced Combat Rules

### 11.51 Multiple Attacks

If an attacking flight comprises two or more aircraft it may try to engage two enemy units if it meets the prerequisites for attacking both. The attacker rolls to engage each defender separately. Each defender rolls separately to engage the attacker. If combat occurs, the attacker rolls two combats; one against each enemy. In each case the attacker uses the 1 column of the Maneuver Table. Both defenders roll for shots against the attacker as normal.

Following a multiple attack, the attacker is disordered in addition to any other combat or morale result.

### 11.52 Slash Attacks

**Design Note:** *High-speed 'slashing attacks' are a popular hit-and-run tactic which limits an attacking flight's exposure to counterattack.*

To launch a slash attack the attacker must be in the second or subsequent turn of dash throttle and cannot have climbed prior to the attack in that Movement Phase. The target cannot be on the deck. The attack must be made from the target's rear hemisphere. Announce the slash attack before rolling for engagement.

Apply the slash attack modifier to the engagement roll. If the attacker doesn't achieve surprise then reduce the number of shot opportunities in the combat by one, to a minimum of zero. The attacker (only) does not scatter or place a Maneuver marker following combat and continues movement [13.22].

The IAF can always use slash attacks. The EAF may not use slash attacks prior to 1973.

### 11.53 BVR Missile Shots

**Design Note:** *The medium-range AIM-7 Sparrow is designed for shots at enemies Beyond Visual Range (BVR). The Israelis were not limited by Rules of Engagement like the U.S. in Vietnam where a Visual Identification (VID) was required before shooting an AIM-7. The IAF was therefore able to employ the AIM-7 more effectively within the constraints of the weapon system parameters.*

F-4 aircraft equipped with AIM-7 RHM can engage flights from 2 to 5 hexes away. Mirage aircraft equipped with Matra 530 RHM can engage flights 2 hexes away. All other prerequisites for combat [11.21] must be met and Lookdown must not apply [10.23].

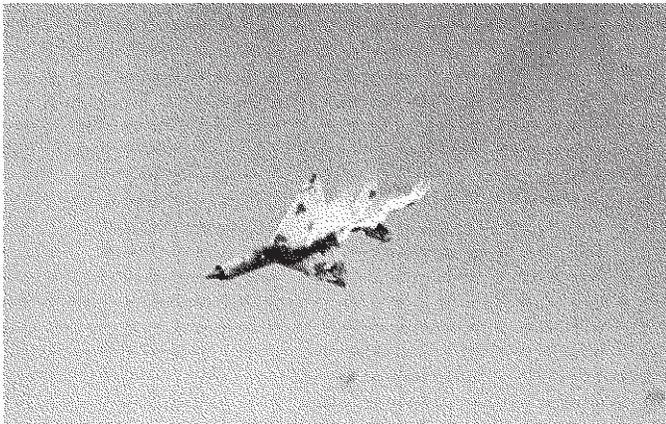
BVR missile shots are allowed only if the Rules of Engagement restrictions permit it [11.54]. A BVR missile shot may not target multiple flights; only one target is permitted. A flight may not attempt more than one BVR missile shot each Movement Phase.

The F-4/Mirage flight automatically engages the target. No attacker or defender engagement rolls are necessary and there is no surprise or disadvantage. Roll on the Maneuver Table using the BVR missile shots column. Apply only the modifiers indicated for BVR shots. The defending flight may not shoot back. Roll for a shot resolution as normal {0} using a combat value of {0} [11.13]. When checking for depletion, only AIM-7/Matra 530 RHM weapons deplete. No other weapons deplete, even if the depletion roll is {1} or less {0}.

Following a BVR missile shot, neither unit scatters. Only the defending flight makes a Morale Check. The attacker must complete its remaining movement and may engage the same defending flight in regular air-to-air combat [11.2, 13.23].

### 11.54 BVR Missile Rules of Engagement

For all BVR attacks, if the attacker is in the defender's forward arc or beam (see Arcs Play Aid), the shot is not permitted if a friendly flight is within 4 hexes of the target. If the attacker is in the defender's rear arc, the shot is not permitted if a friendly flight is within 2 hexes of the target.



## 12. Air Unit Damage

### 12.1 Damage Allocation

Randomly allocate damaged/crippled/shot down results among the aircraft in a flight by rolling a die on the Damage Allocation Table, cross-referencing with the total aircraft in the unit.

The result is the number of the aircraft affected. If the result is C# and a crippled aircraft is present, allocate the damage to any crippled aircraft (attacking player's choice). Otherwise allocate damage to the damage # indicated. Note the damage on the flight log [4.21].

If a combat generates multiple damage results, roll to allocate each one separately. Results may be allocated in any order selected by the attacker. If a damaged/crippled aircraft is damaged or crippled again, its damage is increased by one level, from damaged to crippled and crippled to shot down. Apply the effects of damage before allocating the next result.

**EXAMPLE:** *A flight with two aircraft receives a shot down, crippled and damaged result against it. The attacking player decides to allocate the shot down result first and rolls a result on the #1 aircraft, which is shot down. This leaves the #2 aircraft to which the crippled result is applied first, then the damaged result. The aircraft is shot down.*

### 12.2 Damage Effects

#### 12.21 Damaged Aircraft

Damaged aircraft are not counted toward the total aircraft available to make air-to-air or air-to-ground attacks.

**EXAMPLE:** *A four-ship flight with one damaged aircraft rolls on the 3 column of the Maneuver Table in air-to-air combat.*

#### 12.22 Crippled Aircraft

Crippled aircraft are treated the same as damaged aircraft, except a flight with one or more crippled aircraft may not select dash throttle on future game turns. Flights with crippled aircraft may be split [4.14].

#### 12.23 Shot Down Aircraft

Shot down aircraft are removed from the flight. If all the aircraft in a flight are shot down the air unit is eliminated. Shot down aircraft may generate bailed out crewmen [26.1].



## 13. Post-Combat Procedure

Following air-to-air combat, flights must perform the following actions in order:

- (1) Check for morale [13.1] and MiG Panic [13.12];
- (2) Scatter [13.2];
- (3) Place Maneuver markers [13.2];
- (4) Become undetected [13.3].

Following AAA and SAM combat that inflicts damage or losses, simply check the flight's morale.

These procedures take place immediately, before any other movement or combat action is performed.

### 13.1 Morale Check

All attacking and defending flights in an air-to-air combat roll a Morale Check after combat has been resolved even if no shots occurred by either side (Exception: BVR missile attackers [11.53, 13.23]). Flights that take damage or losses from an AAA, Fire Can/Gun Dish or HAWK/SAM attack also roll a Morale Check.

To make a Morale Check, roll two dice and consult the Morale Check Table. Modify the roll as indicated. Apply damage/loss modifiers only for aircraft damaged or lost in the just-resolved combat. Refer to the column for air-to-air combat or SAM/AAA combat as appropriate.

Apply the results. Reduce the flight's Aggression Value by the amount in the Aggression Value column (but never below -3).

#### 13.11 Disordered State

**Design Note:** *Combat can break up a flight and scatter it across the sky, or simply take the flight out of a unit.*



Flights that become disordered are noted as such on the flight log sheet. Optionally, mark the flight with a Disordered marker.

Disordered flights cannot enter Defensive Wheels [7.1] and immediately leave on becoming disordered. They may not visually sight [10.21], radar search [10.22], initiate air-to-air combat or make air-to-ground attacks. Modifiers apply to engagement and air-to-air combat.

Flights can recover from disorder in the Admin Phase. Disordered flights roll two dice and add their Aggression Value. Modify the roll by +8 if in or adjacent to a Rally Point or Orbit Point hex

[8.51, 9.1]. On a 20 or more, remove the disordered status.

A flight that is tasked Recon that successfully removes the Disordered marker can attempt to accomplish their mission tasking by heading to the closest waypoint and then resuming their route [8.32].

**NOTE:** Recon aircraft may also continue their Recon task while disordered.

Do not roll for disorder recovery if the flight was:

- Attacked by SAM or AAA that turn.
- Involved in air-to-air combat that turn.
- Acquired by a SAM unit.

### 13.12 MiG Panic

**Design Note:** A flight caught in air combat will jettison its ordnance rather than be weighed down by the bomb load. However, air combat can convince jittery flights nearby to dump their bombs, too. While the term MiG Panic came from the Vietnam War, the effects apply in this theater of battle for both sides.

After any air-to-air attack on a flight tasked with bombing, roll one die for each Bombing-tasks flight in the same mission [8.1] (do not roll for flights in different missions or raids). On a roll of 1 or less, that flight jettisons its ordnance.

## 13.2 Scatter and Maneuver Markers

**Design Note:** In dogfights, flights just have time for one or two maneuvers before they lose track of an enemy or run out of speed and the battle ends. Flights spit out of a combat in all sorts of directions and usually at a lower altitude. The scatter roll represents this.

After air-to-air combat, flights scatter from their hex. Roll a die for each flight in the combat and follow the instructions in the scatter diagrams. If instructed to descend an altitude band and the flight is on the deck, do not descend further.

After scattering the flights, mark them all with a Maneuver marker (Exception: Defensive Wheels, Slash Attacks, BVR Missile Shots, and Disengaging Flights).

If forced to scatter off map, or into a Ridgeline while on the deck [6.34], keep rolling until a legal movement result occurs.

### 13.21 Defensive Wheels

Flights in Defensive Wheels [7.1] do not roll for scatter. However, flights that lose Defensive Wheel formation as a result of a Morale Check do scatter.

### 13.22 Slash Attacks

Do not scatter or place a Maneuver marker on a flight that makes a slash attack [11.52] (scatter the defending flight and place a Maneuver marker on it, as usual). The attacker continues movement if it has any MP remaining.

### 13.23 BVR Missile Shots

Following a BVR Missile shot [11.53] do not scatter or place a Maneuver marker on either flight. Only the defender rolls a Morale Check. The attacking flight moves any remaining MP and may engage the same target in regular air-to-air combat. (Note: It may not engage any other flight)

### 13.24 Disengaging

Do not scatter or place a Maneuver marker on a disengaging flight [11.41]. (The attacking flight scatters and has a Maneuver marker placed, as usual.)

## 13.3 Post-Combat Detection

**Design Note:** For ground and air controllers, sorting out the result of a 'merged' radar plot following a battle takes some time. We show this by making air combat participants undetected.

Following an air-to-air combat, all participating flights immediately become undetected. Flip the counters to the undetected side. (Exception: BVR missile attacks [11.53] do not change detection status.)



## 14. Anti-Aircraft Artillery

**Design Note:** Anti-Aircraft Artillery (AAA) concentrations represent areas of flak barrage. Fire Can units model radar-directed flak. Gun Dish units are attached to EAF ground units. SAM units and parts of the ground infrastructure also have AAA capability.

### 14.1 AAA Concentrations

**Design Note:** Concentrations of AAA reflect the density of overall firepower projected rather than the caliber of weapons used.

AAA concentrations are ground units and come in three densities: Light, Medium and Heavy.

Some AAA concentrations are printed on the map. Additional AAA concentrations are available in scenarios and are represented on the map by counters. There can be no more than one concentration in a hex [28.61].

### 14.11 AAA Points

In the Planning Phase each player may receive AAA points. These can be spent to upgrade printed AAA. Upgrades cost AAA points as follows:

Light to Medium = 1

Medium to Heavy = 2

**EXAMPLE:** A printed Light concentration is upgraded to Medium for 1 AAA point. It can be upgraded to Heavy for a further 2 AAA points for a total cost of 3.

Place a marker of the upgraded density over the printed concentration on the map.

Additional AAA concentrations may be purchased for the following cost in AAA points:

Light = 1

Medium = 2

Heavy = 4

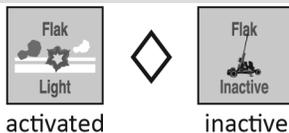
Each player secretly plots the locations of additional AAA concentrations in the Planning Phase [28.33]. Some of these AAA concentrations are set up on-map in the Ground Deployment Phase [28.61] on their active or inactive side. The remaining AAA concentrations are hidden (i.e., not placed on the map) and are inactive.

### 14.12 AAA as Targets

AAA concentrations are target profile C [17.13].

## 14.2 AAA Activation

**Design Note:** AAA active state represents the AAA being cleared to shoot at anything that enters their barrage zone. Inactive AAA is lying in wait, ready to spring a 'flak trap'.



AAA concentrations are either active or inactive. The player chooses when to activate AAA. Once active, AAA cannot become inactive. Inactive AAA concentrations can be activated only at the following times:

- The Radar Phase.
- The Admin Phase.
- When a flight moves adjacent to the concentration.
- When a flight expends an MP while adjacent.

When an AAA concentration is activated, flip the AAA counter to its active side. Hidden AAA is revealed and placed on the map. Once revealed, AAA cannot become hidden again.

Printed concentrations may start a scenario inactive. Indicate this by using any spare AAA counter.

## 14.3 Flak Barrage

**Design Note:** The AAA barrage fills an area of sky with shrapnel and blast in the hope of hitting jets flying past.

An active AAA concentration projects a flak barrage zone into its hex and all adjacent hexes. Roll a barrage attack on a flight immediately each time the following applies to it:

- It enters a hex in a flak barrage zone via movement, scatter or SAM avoidance. (Exception: Fighter/AAA deconfliction [14.63].)
- It changes altitude band in a barrage zone as a result of movement, scatter or SAM avoidance (note that a flight that enters a barrage zone and descends an altitude band on the same movement point needs only one barrage attack rolled against it, not two).
- It expends an MP turning in a barrage zone.
- It expends an MP to conduct a toss bombing [17.34], or a lofted ARM attack [17.52].
- It presses a dive bombing attack [17.31].
- It attacks an enemy flight in a barrage zone (not applicable to BVR Missile attacks). Use the defending flight's hex and altitude to resolve combat.

Flak barrage rolls are made regardless of whether the target is detected or undetected.

### 14.31 Resolving Flak Barrages

Roll two dice on the AAA Table using the column for the density of AAA being projected into that hex, cross-referenced with the flight's altitude. If the flak barrage roll is as a result of a change in altitude, the player may choose to attack either the altitude where the flight started or where it ended.

**EXAMPLE:** An IAF flight at Low altitude climbs to Medium. The EAF player may select either the Low or Medium bands as the flight's altitude for the barrage attack.

If more than one AAA concentration projects its barrage into the hex, the player chooses one concentration (only) to roll the barrage attack.

**EXAMPLE:** A flight moves into the barrage zone of a Light and Medium concentration. One barrage attack is rolled, using the Medium column. The Light concentration does not attack.

If the roll is equal to or greater than the AAA number listed, the target flight is hit. If the target is hit, roll for damage on the Barrage column of the Flak Damage Table. Roll two dice and apply the barrage flak modifiers to obtain the damage result.

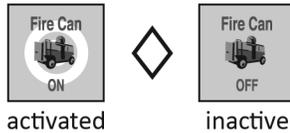
A 'D' result means one aircraft is damaged; 'C' that an aircraft is crippled, and 'K' that an aircraft is shot down [12.2]. If more than one result is listed, all are applied to the flight.

### 14.32 Air-to-Ground Modifiers

**Design Note:** One of the chief effects of flak is to disrupt bombing attacks by interrupting the pilots' aim.

Flak barrage also applies as a modifier, listed on the AAA Table (in parentheses), to those visual bombing air-to-ground attacks where the bomb run passed through a flak barrage zone [17.42]. Apply the modifier even if flak fails to hit the bombers. Where more than one barrage zone affects the attack, apply the greatest negative modifier.

Flak modifiers are reduced by 1 (towards 0) for each level of suppression on the concentration. Flak modifiers are not applied to blind bombing attacks [17.3].



## 14.4 Fire Can

**Design Note:** *Fire Can* is the NATO codename for a radar system capable of directing AAA guns by providing target range and altitude information. A unit represents a *Fire Can* directing a battery within the AAA concentration.

*Fire Cans* are special AAA ground units possessing radar.

### 14.41 Fire Can Deployment

The EAF player is allocated a number of *Fire Cans* by the scenario. In the EAF Planning Phase secretly plot the locations of *Fire Can* units on the EAF log sheet. *Fire Cans* must be placed in hexes containing AAA concentrations. The maximum number permitted in a hex varies with the density of the AAA concentration:

- Light – 1 *Fire Can*
- Medium – 2 *Fire Cans*
- Heavy – 3 *Fire Cans*

Though *Fire Cans* set up in the same hex as AAA concentrations, they operate as separate units.

### 14.42 Fire Can Status

*Fire Can* units remain hidden—not placed on the map—until they switch their radars on. When a *Fire Can* switches its radar on, place a *Fire Can* counter on the map; the unit has been located and may be attacked by IAF flights. A located *Fire Can* never becomes hidden again.

### 14.43 Fire Can Attacks

A *Fire Can* with its radar switched on can shoot once per game turn, during enemy movement. It can shoot at an enemy flight within two hexes following the expenditure of a Movement Point, or immediately after the target has scattered or performed a SAM avoidance maneuver. *Fire Cans* cannot shoot at flights on the deck. Resolve all flak barrage attacks on the flight first before rolling *Fire Can* attacks.

Roll two dice on the AAA Table using the *Fire Can* column referenced with the target flight's altitude. If the roll is equal to or greater than the AAA number listed, the flight is hit and damage should be determined using the *Fire Can* column of the Flak Damage Table. Roll two dice and apply the *Fire Can* modifiers

to obtain the damage result.

A 'D' result means one aircraft is damaged. 'C' means an aircraft is crippled. 'K' means an aircraft is shot down [12.2]. If more than one result is listed, all are applied to the flight.

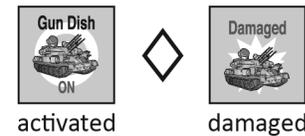
### 14.44 Fire Can Radars

*Fire Cans* have their radar switched on or off. Flip the unit counters to its 'on' or 'off' side in the Admin Phase. *Fire Cans* with their radar off may not attack enemy flights.

Anti-radiation missiles (ARMs) can force *Fire Can* radars to shut down [17.53].

### 14.45 Fire Can as Targets

*Fire Can* units are target profile C [17.13].



## 14.5 Gun Dish

**Design Note:** *Gun Dish* is the NATO codename for the fire control radar system for the ZSU-23-4 Shilka mobile AAA system. The ZSU-23-4 is a quad 23mm AA weapons mount on a tank chassis to provide mobile air defense for ground units. It was a lethal surprise to the Israelis during the Yom Kippur War in 1973.

### 14.51 Gun Dish Deployment

The EAF player may be allocated a number of ground units by the scenario and these ground units may have *Gun Dish* capability assigned for scenarios set in 1973. Place the *Gun Dish* counter stacked below the ground unit they are supporting until the first time they attack then place them stacked on top of the ground unit.

### 14.52 Gun Dish Attacks

A *Gun Dish* supported ground unit is considered to be active at all times unless the *Gun Dish* has been suppressed, damaged or destroyed. A *Gun Dish* supported ground unit can shoot once per game turn, during enemy movement and may also shoot while the ground unit is moving. It can shoot at an enemy flight within its hex following the expenditure of a Movement Point, or immediately after the target has scattered or performed a SAM avoidance maneuver. Resolve all flak barrage attacks on the flight first before rolling *Gun Dish* attacks.

Roll two dice on the AAA Table using the *Gun Dish* column referenced with the target flight's altitude. If the roll is equal to or greater than the AAA number listed, the flight is hit and damage should be determined using the *Gun Dish* column of the Flak Damage Table. Roll two dice and apply the *Gun Dish* modifiers to obtain the damage result.

A 'D' result means one aircraft is damaged. 'C' means an aircraft is crippled. 'K' means an aircraft is shot down [12.2]. If more than one result is listed, all are applied to the flight.

### 14.53 Gun Dish as Targets

*Gun Dish* units can be targeted separately from the ground unit counter they are stacked with and are target profile B [17.13].

## 14.6 Advanced AAA Rules

### 14.61 Small Arms

All non-*Gun Dish* equipped Infantry (INF) ground counters [27.1] project a small arms flak barrage. No extra counters are placed to indicate this flak. The barrage zone only occupies the counter's hex, not the adjacent hexes. Small arms concentrations are always activated.

### 14.62 Organic SAM/Ground Unit Flak

All non-hidden HAWK/SAM units [15.1], including dummies and Mechanized and Armor ground counters [27.1] project Light flak barrages. The barrage zone only occupies the counter's hex, not the adjacent hexes. Organic flak is always activated. Attacks on the unit that generate damage result in suppression of the organic flak as if it was an AAA site [18.21]. If the HAWK/SAM unit or ground unit is totally destroyed, so is its organic flak.

### 14.63 Fighter/AAA Deconfliction

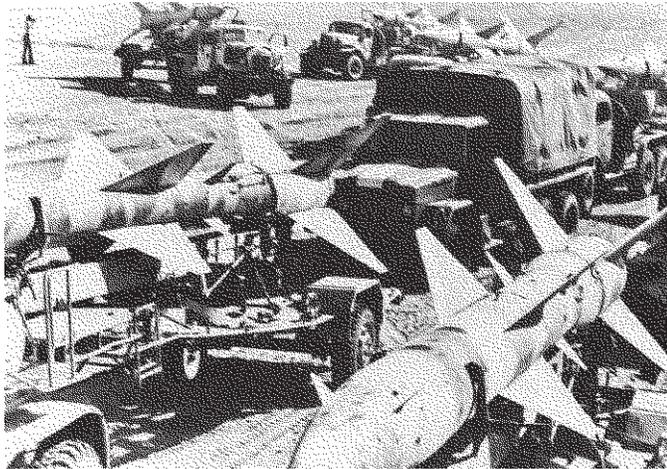
**Design Note:** Each country has set 'corridors' based on altitude to allow aircraft to pass safely through AAA zones.

Friendly flights (including dummies) that enter a hex at Deck altitude are not attacked by a friendly flak barrage unless they entered as a consequence of scatter.

### 14.64 SA-7s

**Design Note:** By 1973, the employment of shoulder-launched infrared SAMs had become widespread in the Egyptian Army.

Small arms flak barrage projected by non-*Gun Dish* equipped Egyptian Infantry (Inf) ground counters in all 1973 scenarios have a +1 modifier on the Flak Damage Table [14.31].



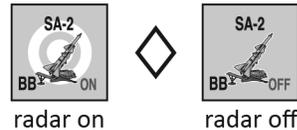
## 15. SAMs

**Design Note:** The Surface to Air Missile (or SAM) is one of the most feared anti-aircraft weapons in a country's arsenal. The S-75 Dvina missile (NATO codename: SA-2 Guideline) is the mainstay of the Egyptian air defense forces, firing from prepared sites and able to move between sites in hours. The Soviets also provided the S-125 Neva missile (NATO codename: SA-3 Goa) which was a more advanced missile system capable of intercepting aircraft at low as well as high altitudes. For the 1973 War,

the Soviets also provided the 2K12 Kub mobile SAM system (NATO codename: SA-6 Gainful) which was designed to provide low-altitude and medium-altitude protection of mobile forces. The IDF countered with their own SAM system, the U.S. Army's HAWK (Homing-all-the-Way Killer) which proved to be as effective as or better than the Soviet supplied SAMs used by Egypt.

HAWK/SAM battalions are ground units that can attack flights with missiles.

Each HAWK/SAM unit is identified by a letter printed on its counters. A SAM uses three counters: a SAM Warning marker for when it is unlocated; a SAM marker for when it is located and an Acquisition marker to mark acquired targets. A HAWK battery only uses two counters; a HAWK marker for its location and an Acquisition marker to mark acquired targets.



## 15.1 SAM Deployment

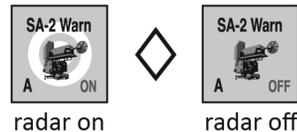
The EAF is allocated a number of SAM battalions and the IAF is allocated a number of HAWK batteries by the scenario. In addition, they may be assigned Dummy SAMs [15.14] and Dummy Radars [15.15]. In the Planning Phase the player secretly plots the locations of battalions and dummies. For each battalion and dummy, make out a SAM entry on the SAM log. This should note the unit's ID letter, hex, target profile and shots remaining.

### 15.11 SAM States

SAM battalions may be in one of three states: located, unlocated and hidden. HAWK batteries are always considered located. Show a located SAM battalion by placing a SAM counter on the map. Show an unlocated battalion by placing a SAM Warning marker when the SAM radar is turned on [15.12]. Hidden SAM units do not appear on the map.

Located HAWK/SAM units can be attacked by any flight whose tasking permits it [8.2]. Unlocated SAM battalions may only be attacked by IAF flights using ARM ordnance [17.5]. Hidden SAM units may not be attacked.

Prior to the start of play, the EAF player must set up some SAM battalions on map as located units [28.62]. The remaining SAM units begin the game hidden.



### 15.12 SAM Warning

When hidden SAM battalions switch their radars on place a SAM Warning marker with the appropriate ID letter and SAM type on the map in the battalion's hex. When the battalion is located remove the SAM Warning marker and replace it with the SAM battalion counter with the same ID and SAM type. (Exception: Hidden SA-6 battalions are not placed on map when they switch on their radar until they attempt an acquisition on a target.)

### 15.13 SAM Location

**Design Note:** SAM sites are camouflaged against detection by enemy forces. However, radar emanations and the launch plumes of missiles are a giveaway.

In the SAM Location Phase the IAF player may try to locate unlocated SAMs marked with SAM Warning markers. Roll for each unlocated SAM within three hexes and Line of Sight [22.1] of an Egrof (SEAD) or Armed Escort flight. (Increase the range to eight hexes if the SAM is marked with a SAM Launch marker.) If out of range and Line of Sight of an Egrof (SEAD) or Armed Escort flight, the SAM unit cannot be located.

Roll one die and modify as indicated on the SAM Location Table. If the roll is equal to or greater than 10, the battalion is located and the SAM Warning marker is replaced with a SAM unit counter with a matching ID. Otherwise it remains unlocated.

### 15.14 Dummy SAM Sites

Scenarios may supply the EAF with dummy SAM battalions. Dummy SAM units use SAM markers and always set up located [28.62]. Dummy SAM sites have no radar and cannot switch on or fire SAMs. Dummy SAM sites can be attacked and destroyed like regular SAM battalions; however, they never count for VPs.

### 15.15 Dummy Radars

Scenarios may supply the EAF with dummy radar units. Dummy radars use regular SAM and SAM Warning markers and may set up located or hidden. Dummy radars behave as regular SAM battalions in all respects except they have no ammo and cannot fire SAMs.

Dummy radars can acquire targets with their radar, switch their radar on and off, and be forced to shut down by ARM attacks. They can be attacked and destroyed like regular SAM battalions. Dummy radars never count for Victory Points.

### 15.16 SAM Units as Targets

SAM battalions and dummy SAMs may be revetted or unrevetted. HAWK batteries are always revetted. Revetted SAM and SA-6 battalions are target profile C. Unrevetted battalions are target profile D [17.13]. SAMs and dummy SAMs that set up within four hexes of downtown Cairo are revetted. All SAMs that setup located are considered revetted. All others are unrevetted unless otherwise stated by SSRs.

## 15.2 SAM Radars

HAWK/SAMs may only acquire and attack targets if their radar is switched on. Radars switch on or off in the Admin Phase; flip the counter to its 'on' or 'off' side. HAWK/SAM radars can also switch on in the SAM Acquisition Phase if they attempt a quick acquisition [15.22]. Anti-radiation missiles (ARMs) can force SAM radars to shut down [17.53].

### 15.21 SAM Acquisition

HAWK/SAM units must acquire their targets on radar before they can fire. A HAWK/SAM not marked with a SAM Launch marker may attempt to acquire an enemy flight in the SAM Acquisition Phase. A HAWK/SAM unit marked with a SAM Launch marker can only roll to maintain acquisition on its current target.

### 15.22 Acquisition Requisites

Each HAWK/SAM battalion may acquire only one target at a time. The target flight must be within acquisition range. It must not be masked by terrain [15.25].

If the HAWK/SAM radar is switched off, it may try a 'quick acquisition'. Quick acquisition may only be attempted against detected flights. The HAWK/SAM radar switches on immediately but applies the quick acquisition penalty modifier. An unlocated SA-6 SAM battalion may attempt a quick acquisition without the quick acquisition penalty modifier.

**OPTIONAL RULE:** Players may use this rule for acquisition to provide a more realistic targeting environment for HAWK/SAM operations. All targets must be designated prior to making any acquisition rolls versus allowing players to designate and roll one target at a time.

### 15.23 Resolving Acquisition

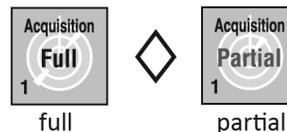
**Design Note:** Targets must be acquired on radar as a prerequisite for launching missiles. Full Acquisition indicates that the HAWK/SAM unit has a clean radar track on the target. Partial Acquisition indicates that the HAWK/SAM unit is having problems tracking the target, as a result of jamming or other factors.

To resolve acquisition roll two dice on the SAM Acquisition Table. Apply modifiers as indicated and consult the column corresponding to the target's current status: detected, undetected or acquired by that SAM unit. Cross-reference with the result column. The results are as follows:

**No Acquisition.** The target is not acquired. Do not place an Acquisition marker. Remove the SAM's Acquisition marker from the target.

**Partial Acquisition.** Place the Partial Acquisition marker matching the SAM unit's ID on the target.

**Full Acquisition.** Place the Full Acquisition marker matching the SAM unit's ID on the target.



### 15.24 Maintaining Acquisition

If a target is marked with an Acquisition marker at the beginning of the SAM Acquisition Phase, the HAWK/SAM unit must roll to retain Acquisition or change Acquisition status. Roll on the Target Acquired column and place or remove the SAM's Acquisition marker accordingly.

**EXAMPLE:** A target is marked with a Partial Acquisition marker. The SAM with the acquisition rolls on the Target Acquired column. A roll of 10 results in Full Acquisition. Place a Full marker by flipping it from its Partial to Full side.

The Acquisition marker is removed the moment a HAWK/SAM unit's radar is switched off or if the target reaches a distance greater than acquisition range. The player may voluntarily lose acquisition at any time.

### 15.25 Terrain Masking

**Design Note:** *Descending into hilly terrain is a certain way to break radar acquisition.*

If a target flight enters a Rough hex while on the deck, the Acquisition marker is removed before any SAM attack can be made. Also, if the target is on the deck and at any time there is a Ridgeline hexside between the HAWK/SAM unit and the flight, remove the marker. Draw a straight line between the center of the HAWK/SAM unit's hex and the center of the flight's hex or hexside. If this line crosses any part of the Ridgeline artwork, acquisition is lost.

### 15.26 Anti-Radar Tactics

**Design Note:** *A rapid descending maneuver followed by low-level flight can degrade SAM radar acquisition.*

Flights with RWR capability which are acquired can declare Anti-Radar Tactics at the beginning of their movement. The flight's first movement point must be used to descend or dive to Low or Deck altitude unless it is already on the deck.

After expending the first MP, and before any SAM attacks can be launched, SAMs that have acquired the target must roll to maintain acquisition [15.24]. The result of the roll may never improve the SAM unit's acquisition.

**EXAMPLE:** *If the SAM battalion has a Partial Acquisition but rolls a Full Acquisition result, the acquisition remains partial.*

A HAWK/SAM unit never rolls more than once for Anti-Radar Tactics in a Movement Phase. However, it rolls to maintain acquisition as usual in the SAM Acquisition Phase.

Apply the Anti-Radar Tactics modifier to all acquisition rolls made against the flight that game turn.

Flights that declare Anti-Radar Tactics cannot climb, initiate air-to-air combat, or make air-to-ground attacks during that Movement Phase. They also lose defensive jamming [19.21]. Aircraft noted as having Poor SAM Defense may not employ Anti-Radar Tactics.

### 15.27 Dummy Flight and SAM Interaction

Dummies are Undetected Tracks. Any SAM may attempt acquisition on an Undetected Track as per normal rules. If the result is Partial Acquisition then the dummy is not revealed and a Partial Acquisition marker is placed on the dummy. If the SAM subsequently fires on that target then the SAM depletes one or more shots (Salvo) and the dummy is automatically removed from play. If the acquisition result is a Full Acquisition then the dummy is removed from play. Otherwise if no acquisition takes place, the dummy counter remains in play.

No dummies may be spawned from a flight that is marked with a Full Acquisition marker even if that flight is undetected. Flights marked with a Partial Acquisition marker may still spawn dummies (if eligible) and the SAM player must declare which flight is being acquired by the SAM prior to that flight moving in the Movement Phase.

## 15.3 SAM Attacks

SAM units may fire at enemy flights up to their attack range.

### 15.31 SAM Fire Prerequisites

**Design Note:** *Air defenses are divided into zones. SAMs in a zone are ordered not to fire if friendly aircraft are passing through. We represent this by preventing SAM fire if friendly aircraft are in the vicinity. Additional rules such as the ones for Safe Passage Corridors modify when SAMs may fire.*

SAM units may only fire at flights during the Movement Phase following the target's expenditure of a movement point, or immediately after it has scattered or performed a SAM avoidance maneuver. Resolve SAM attacks after all AAA barrage and *Fire Can/Gun Dish* attacks have been resolved.

SAM units only fire at acquired flights and may fire no more than once per game turn. SAMs may not fire at targets that are at minimum range. No more than two SAM units may attack the same flight in a game turn.

SAMs may not fire if a friendly flight (including a dummy) is within four hexes of the target flight. Only a Safe Passage Corridor [15.53] would allow the SAM to fire on an enemy flight with a friendly flight within four hexes.

### 15.32 Resolving SAM Attacks

To resolve a SAM attack, the player rolls two dice and applies the attack modifiers as indicated. Look up the result on the SAM Attack Table. It will give either a Hit or Miss result.

When the attacking player rolls an attack, the defending player simultaneously rolls two dice and applies defense modifiers. Look up the result on the SAM Defense Table using the column corresponding to whether the flight has no defensive jamming capability or has defensive jamming [19.2]. If more than one applies use the rightmost column (i.e., the best defense) that applies to the target flight. Results are as follows:

**No Effect.** The rolled result of the SAM attack is allowed to stand.

**Miss.** The attack is negated by the flight's defensive tactics. The SAM attack misses regardless of whether the attacking player rolled a hit.

**Avoidance.** The SAM attack misses and the target flight must perform a SAM avoidance maneuver [15.33]. Aircraft noted as having Poor SAM Defense treat this result as No Effect.

If the result of the attack is a hit and this is not negated by the SAM defense roll, roll one die on the SAM Damage Table, using the column for a Full or Partial Target Acquisition, as appropriate. Apply the results to the target flight as indicated.

After resolving the attack, mark the HAWK/SAM battalion with a SAM Launch marker [15.21]. The target flight may continue movement, if it has MP remaining.

The attacking player may choose to fire a "salvo" of SAMs, to obtain an improved modifier. This uses more ammo [15.34].

### 15.33 SAM Avoidance

**Design Note:** *A carefully timed roll and dive, sometimes called an orthogonal roll, is an effective last-ditch maneuver against incoming SAMs.*



If the flight must perform a SAM avoidance maneuver, consult the SAM Avoidance Chart. Turn and move the flight into any of the indicated hexes, as if conducting regular movement, and descend one altitude band (do not descend if on the deck).

The SAM avoidance maneuver uses up one MP. If the flight has no more MP remaining, place a SAM Avoidance marker. In its next Movement Phase it costs the flight one MP to remove the marker, expended as its first MP of the Phase.

Flights that perform a SAM avoidance maneuver must jettison all non ARM/non Air-to-Air ordnance [16.23]. They cannot initiate air-to-air combat or make air-to-ground attacks during that Movement Phase.

### 15.34 SAM Ammo

**Design Note:** *A standard HAWK/SAM attack represents the launch of two missiles. A salvo is three or four missiles.*

SAM units have a variable amount of shots based on their type. Each regular attack uses up one shot. A salvo uses two shots. A SAM unit that has fired all of its shots is depleted. Depleted SAM units may not fire for the remainder of the raid.

## 15.4 Advanced SAM Rules

### 15.41 Lock-On After Launch

**Design Note:** *In order to limit the amount of time their radars are switched on because of the ARM threat, the EAF sometimes resorts to desperation tactics, launching missiles before the radar switches on and hoping to acquire the target while the missile is in flight.*

Egyptian SAM battalions may perform Lock On After Launch (LOAL) attacks. Only SAM units with their radar off make LOAL attacks and the target must be detected. No acquisition is required prior to the attack, though all other prerequisites apply.

Declare the LOAL attack and switch the SAM radar on. Then roll to acquire the target, applying the Lock-On After Launch modifier. If the result is no acquisition, the attack fails. Otherwise mark the target with an Acquisition marker and resolve the attack as normal. Regardless of the acquisition's success, the attack always expends one shot of ammo (two if a salvo [15.32] is declared) and results in the placement of a SAM Launch counter.

### 15.42 High Altitude Targets

For the purposes of attack rolls and burn-through [19.22] add 1 to the total distance in hexes from the SAM to the target if that target is at High altitude.

**EXAMPLE:** *An F-4 flight at High altitude is adjacent to a SAM battalion's hex. Normally, the SAM is not permitted to attack an adjacent target, but adding one to the distance for altitude puts the F-4s two hexes away. They can now be attacked.*

### 15.43 Safe Passage Corridors (OPTIONAL RULE)

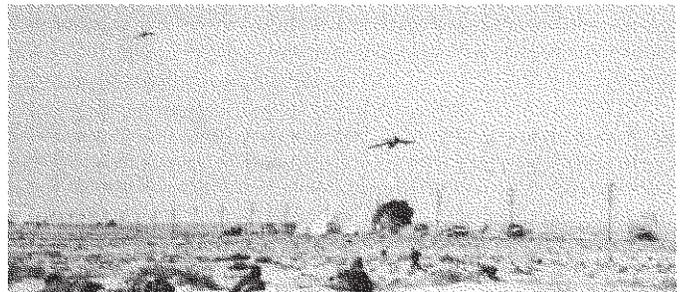
**Design Note:** *Safe Passage Corridors are an important facet of the ground and air coordination of an Integrated Air Defense System. It allows friendly aircraft to fly through defended zones while limiting fratricide.*



The EAF player may optionally plot up to two safe passage corridors during the Planning Phase if allowed by SSR in scenarios set in 1973. These safe passage corridors allow the EAF player to have both MiGs and SAMs active in the same area.

A safe passage corridor is ten hexes long by two hexes wide and must have an altitude of Low, Med or High assigned to it. The airspeed for a safe passage corridor is always limited to 3 and/or 4 MPs. A safe passage corridor allows the EAF player to fly any of their friendly aircraft within a SAM zone without the normal 4 hex restriction for firing at a target [15.31] and is exempt from the effect of Random Event: SAM Fratricide (Egyptian player must reveal his Safe Passage Corridor location to avoid the event).

If an IAF plane is flying at the same altitude and speed regime as allowed by the safe passage corridor then they may not be acquired by any SAMs unless the deconfliction restrictions are again met [15.31].



## 16. Air-to-Ground Ordnance

Certain flights carry ordnance to attack ground targets.

### 16.1 Ordnance

Flights tasked with Bombing, Strike/CAP, SEAD, Armed Escort carry air-to-ground ordnance. Some flights tasked with Recon may carry chaff and flare dispensers.

#### 16.11 Ordnance Type

There are several types of ordnance, some of which are only available via SSR. Ordnance types are as follows:

- **Bombs.** This is the default ordnance type. If no ordnance is specified by the scenario or order of battle, flights are assumed to carry bombs. CBU [17.61] and Rockets [17.62] and Runway Dibbers [17.63] are a variant of bombs.
- **EOGB.** Glide Bombs and Air to Ground Missiles [17.35]. Available in two types: Walleye I (available from 1973 on), and Maverick (16 Oct 1973).
- **Shrike.** Shrike Anti-Radiation Missile (available from 1970 on)

Flights usually carry only one type of ordnance. Aircraft are permitted to carry multiple types of ordnance simultaneously, but only as noted on the ADC. In addition to the listed ordnance, flights may make strafing attacks using their air-to-air gun weapons.

### 16.12 Bomb Ammunition

**Design Note:** The term ‘bombs’ actually represents a wide range of unguided ‘dumb’ munitions, including rockets.

Bomb ordnance loads are expressed as an attack strength, which is listed on the ADC. When making an attack, the flight may expend some or all of the attack strength in increments of whole or half strength points. When it makes an attack, the expended points are subtracted from the flight’s strength. A flight may never exceed its current bomb strength in an attack.

**EXAMPLE:** A flight with bomb strength 2.5 makes an attack. It attacks and uses 1.5 strength points in the attack. This leaves the flight with 1 point of strength remaining.

### 16.13 Strafing Ammunition

Flights that are strafing roll for depletion as if the flight had just been in air-to-air combat (do not modify the roll). A successful roll depletes the gun and not any other weapons.

### 16.14 PGM Ammunition

**Design Note:** Precision Guided Munitions (or PGM) have had a profound impact on warfare, as they are able to achieve great levels of accuracy. A PGM ‘shot’ represents a single bomb or missile.

EOGB and Shrike ordnance are listed on the ADC as having a number of ‘shots’ (in parentheses). The flight starts with a number of shots equal to the ADC value, multiplied by the number of aircraft in the flight. Note the number of shots on the flight log.

Each shot represents one attack die roll. When a flight makes an attack it may expend any number of shots, which must be announced before the attack is rolled. Each shot is resolved separately. When all of a flight’s shots are expended, it may not make any more attacks with that ordnance.

A flight may never have more shots than the ADC value multiplied by the number of currently undamaged aircraft. If the remaining number of shots exceeds this value, reduce them to the maximum permissible.

**EXAMPLE:** A flight has an ADC value of two Shrike shots. There are two aircraft in the flight so it starts with a total of four Shrike shots. The flight shoots one Shrike shot during play, leaving three remaining, and then takes damage to one of the aircraft. The remaining number of shots is reduced to two: the maximum the flight is now allowed.

## 16.2 Carrying Ordnance

### 16.21 Clean and Laden Status

**Design Note:** An aircraft performs best when it is ‘clean’—i.e., not weighed down with bombs or other ordnance. Laden aircraft have their performance reduced due to weight and aerodynamic drag.

Flights carrying air-to-ground ordnance and/or drop tanks are classed as laden until all ordnance or drop tanks are expended or jettisoned, at which point they become clean. Laden flights use laden Movement Point and Maneuver values. As soon as flights jettison or expend all their ordnance, they use the clean values [6.2].

**Design Note:** Shrike is a lightweight missile with little drag.

Flights carrying Shrike and no other ordnance are treated as clean.

### 16.22 Carrying Limits

**Design Note:** Bombs cannot be carried at speeds faster than their carriage limits or the weapons will malfunction.

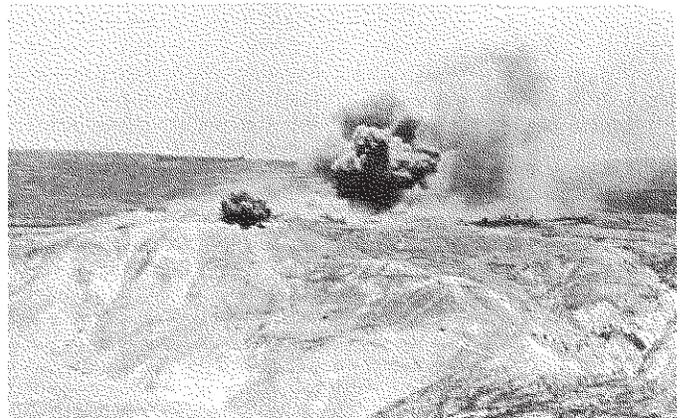
If a flight laden with bombs or EOGB ordnance exceeds a speed of four MP in a Movement Phase, that ordnance is rendered useless and cannot be used (though it can still be jettisoned). Mirage IIICJ and Nesher aircraft have a specially designed supersonic drop tank and are exempt from this rule when laden with drop tanks only [20.1].

### 16.23 Jettisoning Ordnance

At any time during movement ordnance or drop tanks may be jettisoned. Ordnance and drop tanks may also be jettisoned prior to air-to-air combat [11.25]. SAM Avoidance maneuvers [15.33] and the results of morale checks [13.1] require flights to jettison.

ARM and air-to-air weapons are never jettisoned unless the player does so voluntarily.

**EXAMPLE:** An A-4 flight is carrying bombs and Shrikes. The flight is forced to jettison as a result of a morale check. The bombs are jettisoned, but the Shrikes are not.



## 17. Air-to-Ground Attacks

**Design Note:** The attacking player’s primary task most of the time is to destroy targets on the ground. There are many methods of air-to-ground attack, which depend on the ordnance carried and the attacking aircraft’s capabilities.

### 17.1 Attacks

Non-disordered flights can attack ground targets during the Movement Phase. A flight may attack once per game turn and may not attack more than one target. A flight that declared Anti-

Radar Tactics or performed a SAM Avoidance maneuver earlier that turn cannot make air-to-ground attacks [15.26, 15.33].

### 17.11 Tasking Restrictions

A flight tasked with Bombing may attack any targets in the raid's target hex. It may also attack AAA, *Fire Can/Gun Dish* and located HAWK/SAM battalions in the same or adjacent hex to the target. It may not attack any other targets.

Units tasked with SEAD may attack any AAA, *Fire Can/Gun Dish* or SAM battalion on the map.

### 17.12 Ordnance Restrictions

Flights must have ordnance of the correct type to launch an air-to-ground attack. Bombs may be used against any target. EOGB may only be used against the raid target. ARMs may only be used against SAM battalions and *Fire Can*. Flights with guns but no ordnance may conduct strafing attacks against any target with a profile of B, C or D [17.36].

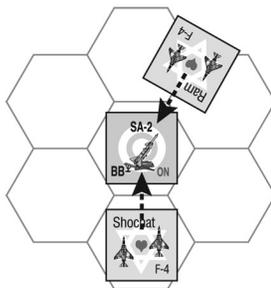
### 17.13 Target Profiles

Ground targets are rated by their target profile, as described in the scenario. Target profiles are a measure of the target's vulnerability to attack and range from D (most vulnerable) to A (least vulnerable). Target profiles modify attack rolls.

## 17.2 Bomb Runs

To attack, the flight must first complete a bomb run. The flight starts its bomb run at an Initial Point (or IP), which can be any hex on the map. Announce the bomb run is starting then move directly from the IP toward the target hex without turning. When the flight reaches the target hex, and after all flak/SAM attacks have been resolved, the attack takes place.

The attack usually takes place within the target's hex, but some ordnance types permit attacks from one or more hexes away. Once the attack has been executed the flight finishes its remaining movement. Free turns are not permitted directly after an attack (i.e. before another MP is expended).



**Illustration:** Two Kurnass flights are attacking a SAM site. Both are using dive bombing profiles and are at their Initial Point, which is one hex from the target. They must enter the target hex to execute the attack.

### 17.3 Attack Profiles

There are many different attack profiles, based on the type of ordnance and other conditions. The attack profile specifies the conditions to be met to make the attack. If any of these conditions aren't met no attack is allowed.

Attack profiles are defined as visual bombing or blind bombing. Visual bombing attacks require a Line of Sight to the target [22.1] throughout a bomb run. Blind bombing attacks do not require a Line of Sight.

#### 17.31 Dive Bombing Profile

**Design Note:** *Dive bombing is the most common form of visual bombing attack. Unless the flight dives during its bomb run, the diving is assumed to take place within the flight's altitude band.*

Use bomb ordnance for a visual bombing attack, the IP is one hex from the target. The flight must be at Low altitude or higher. No climbing permitted during an attack. The attacker may announce they are 'pressing' an attack, which gives a bonus attack modifier. However, the defender gets an additional flak barrage attack just before the bombing attack [14.3].

#### 17.32 Level Bombing Profile

Use bomb ordnance for a visual bombing attack the IP is one hex from the target. No climb or dive permitted during the attack. Apply the Level Bombing modifier.

#### 17.33 Radar Bombing Profile

**Design Note:** *Flights can attack targets using their radar to aim.*

Radar Bombing Capability required. Use bomb ordnance for a blind bombing attack, the IP is two hexes from the target. No climb or dive is permitted during the attack. Apply the Radar Bombing modifier.

#### 17.34 Toss Bombing Profile

**Design Note:** *To toss-bomb the bombs are hurled at high speed in a climb from a distance (usually outside the range of flak). The climb is assumed to take place within the altitude band. Toss bombing is not very accurate.*

Radar Bombing Capability required. Use bomb ordnance for a blind bombing attack, the IP is four hexes from the target. The target is attacked from two hexes away. The flight must have declared it is moving at a speed of four MP or more. No climb or dive permitted during the attack. Expend one MP to make the attack. Apply the Toss Bombing modifier.

#### 17.35 EOGB Profile

**Design Note:** *Electro Optical Guided Bombs home in on a TV image of a target. Poor image contrast due to weather or dust can confuse the bomb guidance. Maverick TV guided rockets were very successful during the later part of the Yom Kippur/Ramadan War.*

Use EOGB ordnance. The Walleye I and Maverick use the visual bombing attack method. The IP is three hexes (two hexes for Maverick) from the target, but the target must be attacked from one or two (one hex for Maverick) hexes away. Attacks are not permitted from the High altitude band. No attacks are permitted where the Line of Sight passes through a cloud layer [22.2, 22.4].

#### 17.36 Strafing Profile

**Design Note:** *If all else fails aircraft can simply shoot at targets with their cannons.*

No ordnance required, but the flight must have a gun weapon and carry out a visual bombing attack. The IP is one hex from the target and must be attacked on the deck at combat throttle. No climbing permitted during the attack. Only targets with profile B, C or D may be attacked.

### 17.37 Shrike Profile

See Anti-Radiation Missile rules [17.5].

## 17.4 Resolving Attacks

Resolve attacks as follows.

### 17.41 Calculate Attack Column

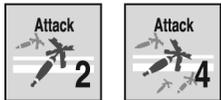
First find the column the flight uses on the Air-To-Ground Attack Table. Flights with bomb ordnance take the declared bomb strength expended and multiply it by the number of undamaged aircraft in the flight to find the attack value. Use the highest numbered column that is equal to or less than the attack value.

**EXAMPLE:** A flight of four A-4Hs has a single aircraft damaged. The flight attacks a ground target, declaring 3 points of bomb strength. The attack value is 3 (bomb strength) multiplied by 3 (number of undamaged aircraft) for a result of 9. The attack uses the 8 column of the attack table.

Strafing flights calculate the column as for flights with bomb ordnance. However, the bomb strength for a strafing attack is 0.5 per aircraft (1 per aircraft if equipped with 30mm or higher guns).

EOGB [17.35] use the PGM column of the table. Shrike ordnance [17.5] uses the ARM column.

### 17.42 Attack Roll



Roll two dice and modify the roll as indicated. Look up the result on the attack column of the Air-to-Ground Attack Table.

The flak modifier [14.32] applied to the attack is the largest one applied in any hex or altitude band flown through on the bomb run. Do not apply flak modifiers to blind bombing attacks.

EOGB and ARMs apply only the modifiers listed for those ordnance types. PGMs roll once for each shot declared [16.14].

**EXAMPLE:** EOGB apply only EOGB modifiers, not any regular bombing modifiers. The expenditure of two EOGB shots results in two attack rolls.

The result is an attack success value from 0 to 4. If the success is 1 or more, place a marker equal to the attack success on the target hex. If more than one attack is made on the target, place a separate marker for each attack.

Roll for damage resolution at the appropriate time [18.1].

**Design Note:** Success numbers represent the pilots' perception of how well the attack has gone. A low success means no effects are seen after the attack. A high success means secondary explosions or debris is seen. The actual damage is not known until after the raid.

## 17.5 Anti-Radiation Missiles

**Design Note:** Anti-Radiation Missiles home in on radar transmissions and knock out enemy radars. They are the principal weapon in the battle against SAM and Fire Can units.

Anti-Radiation Missiles (ARMs) may be used to attack *Fire Can* units, EWR units or SA-2/SA-3 SAM battalions that have their radars switched on. ARMs may not be used against any other type of target including SA-6 SAM battalions and *Gun Dish* units.

### 17.51 ARM Types

There is only one type of ARM in *Elusive Victory*: the AGM-45 Shrike.

### 17.52 ARM Launches

ARMs have a maximum range, which varies with delivery method and altitude. They may be launched at any distance from the target from one hex away up to their maximum range. A flight may launch multiple shots of an ARM against the same target.

When an ARM is launched, the IAF player indicates the launching flight and the number of shots, but not the target. The IAF player notes the target on a piece of scrap paper and keeps this information secret until after the EAF player has declared which unit(s) will voluntarily shut down their radars [17.53]. Only then is the target noted on the paper revealed and the attack resolved.

ARM launches are blind bombing attacks. There is no IP for an ARM bomb run. Instead the flight may fire after expending any MP provided the target is in a launch arc designated in the weapon description. The ARM is then launched.

ARMs may be lofted to extend their maximum range. Expend an additional MP in the launch hex without moving to execute a lofted attack. For all ARM shots, lofts are not permitted closer than 4 hexes from the target.

### 17.53 Radar Shut-downs

**Design Note:** The easiest way to defeat ARMs is to simply turn the radar off, denying the missiles a target. However, this puts them off-air, conceding the skies to the IAF.

ARMs may only be launched at targets that have their radar switched on. (Exception: Pre-emptive ARM launches [17.56].) They may not be used against switched-off targets.



The EAF player may shut down SAM and *Fire Can* radars the moment an ARM weapon is launched (the ARM does not have to be targeted at the unit) provided the launching flight is detected and the SAM or *Fire Can* unit has not fired. The radar is switched off and the unit flipped to its 'radar off' side. If the EAF player does not voluntarily switch off the targeted radar, roll an ARM Morale Check immediately after the target is declared to see if the radar crew detects the launch and shuts down in time. Roll one die. If the roll is equal to or less than 5, the radar shuts down. Add 3 to the roll if the launching flight is undetected.

Roll an ARM Morale Check for each ARM launched at the target. If the radar shuts down, mark it with a Shut Down marker. All Shrike ARM attacks against the radar immediately fail. Do not

roll an attack on the target, though the ordnance is expended. Radars that shut down voluntarily or because of an ARM Morale Check switch back on in the Admin Phase. Roll a die. On a result of 8 or greater the radar switches on, otherwise it remains off. Roll each Admin Phase until it switches back on.

### 17.54 Shrike

**Design Note:** *The first ARM type sold to the Israelis by the United States, the AGM-45 Shrike is effective at scaring radar operators off the air. However, its tiny warhead rarely causes major damage.*

The launch arc for a Shrike is the flight's forward arc. Maximum range is one hex. However, if the attack is made from Medium altitude or higher, the range is increased to two. A lofted Shrike attack increases the range by three hexes to a maximum range of four or five depending on launch altitude.

Damage caused by Shrike attacks is reduced [18.2]. Shrikes have phosphorus target markers [17.55].

### 17.55 Phosphorus Target Markers

**Design Note:** *Phosphorus markers indicate a SAM site for follow-up attacks.*

Shrike's have phosphorus target markers. If the weapon achieves an attack success of 2 or better against a SAM target, it is automatically located. Replace the SAM Warning marker with the unit counter matching its ID [15.12].

### 17.56 Pre-emptive ARM Launches

IAF Egrof (SEAD) units may conduct pre-emptive ARM launches. ARMs may be launched preemptively at SAM battalions whose radars are turned off. Pre-emptive launches must use loft delivery. Pre-emptive ARMs do not resolve the attack until the SAM Acquisition Phase. An attack is resolved only if the target SAM battalion switches its radar on. If the target does not switch on its radar, it is not attacked and the ordnance is expended for no effect.

A SAM battalion that comes under attack from a pre-emptive ARM must roll an ARM Morale Check [17.53] before the attack is resolved. If more than one SAM battalion is eligible to be attacked by the pre-emptive method, the IAF player does not have to announce the target, but can 'fake out' the EAF player. Secretly note the ARM target on a piece of paper. Only reveal the target when it is attacked.

The unlocated target modifier applies to pre-emptive attacks regardless of whether or not the target was located.

## 17.6 Advanced Bombing Rules

### 17.61 Cluster Bomb Units

**Design Note:** *Cluster bombs, capable of spreading hundreds of tiny bomblets far and wide, are the weapon of choice against 'soft' targets such as AAA and radar units.*

Prior to play, a flight carrying bomb ordnance may exchange bombs for Cluster Bomb Units (CBU) if permitted by the order of battle tables or SSRs. Note CBU on the flight log.

CBU are treated as normal bombs. However, the bomb strength of CBU is doubled versus AAA, SAM battalions, *Fire Can/Gun Dish*, ground units and aircraft on the ground. The strength is halved versus all other targets.

Prior to 1970 CBU attacks may only take place on the Deck; attacks from higher altitude have no effect. From 1970 onward CBU attacks may be made from any altitude except High.

### 17.62 Flak Suppression

Flights attacking AAA concentrations with bombs (or CBU) may split their attack value in any way the attacker wishes between the AAA concentration and any *Fire Can* units in the hex. Roll the attacks and determine damage results separately.

**EXAMPLE:** *An A-4H flight with four aircraft attacks a Medium AAA concentration that shares the hex with two Fire Cans. The total attack value is 12. This is split so that 6 points are used against the AAA and 6 against one of the Fire Cans. An alternative scheme would be to use 6 against the AAA and 3 against each of the Fire Cans.*

### 17.63 Rocket Pods

**Design Note:** *The Egyptians used UB-16 57mm Soviet rocket pods extensively during their ground attack missions. Rocket pods are relatively easy to use compared to the skill needed to make dive bombing attacks.*

Rocket pods have the same strength as normal bombs. They may be employed with two different attack profiles. Dive bombing profile [17.31] may be used at Low altitude or a Level bombing profile [17.32] may be used on the Deck. No other profile may be used to employ Rockets.

### 17.64 Runway Dibbers

**Design Note:** *Runway Dibbers are retarded (high-drag) bombs that have a rocket motor to drive the warhead into a hard surface like a runway and then explode causing cratering to the runway. Israelis used these weapons to good effect in the 1967 SDW and the Egyptians used them as well in 1973.*

Runway Digger Anti-Runway bombs have tripled strength vs. runways and half strength vs. all other targets. The only allowable attack profile is a Level bombing profile [17.32] at either Low or Deck altitude.



## 18. Ground Target Damage

Resolve damage against ground targets as follows.

### 18.1 Damage Rolls

Damage resolution for a target is rolled in the following circumstances:

- If the success level was 0, roll immediately for any potential collateral damage [18.3].
- Roll immediately for damage to AAA concentrations, *Fire Can/Gun Dish* units, SAM battalions, [Airfield Runways](#), and army ground units.
- For all other targets roll for damage resolution in the Bomb Damage Assessment Phase at the end of the raid, after all recon tasks have been completed. In campaigns only roll in the Campaign BDA Phase for those targets that have been photo-reconnoitered for BDA [24, 29.34].

### 18.2 Resolving Damage

To resolve damage roll two dice for each success marker and cross-reference with the column of the Damage Table corresponding to the attack's success value. The result is listed as follows:

**NE: No effect** = No effect to target.

**S: Slight Damage** = Target is slightly damaged. *Gun Dish* units are suppressed. *Fire Can* units and HAWK/SAM battalions are damaged and immediately shut their radar down for the remainder of the raid. AAA concentrations are at Suppression Level 1.

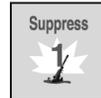
**H: Heavy Damage** = Target is heavily damaged. *Fire Can/Gun Dish* units and HAWK/SAM battalions are damaged and immediately shut their radar down for the remainder of the raid. Ground units in the hex are damaged. AAA concentrations are at Suppression Level 2.

**T: Total Destruction** = Target is destroyed. HAWK/SAM battalions and *Fire Can/Gun Dish* units are destroyed. All ground units in the hex are destroyed. AAA concentrations are at Suppression Level 3.

Damage is not cumulative. The target is affected only by the highest damage level applied.

Shrike ARMs reduce their damage result by one level, so Slight Damage has no effect, Heavy Damage is counted as Slight and Total Destruction is treated as Heavy Damage.

### 18.21 AAA Suppression Levels



Suppressed AAA concentrations are marked with a marker equal to the Suppression Level and add penalty modifiers to their rolls on the Flak Damage Table.

Each level of suppression reduces the parenthesized flak modifier on the AAA Table by 1 (toward 0) [14.32].

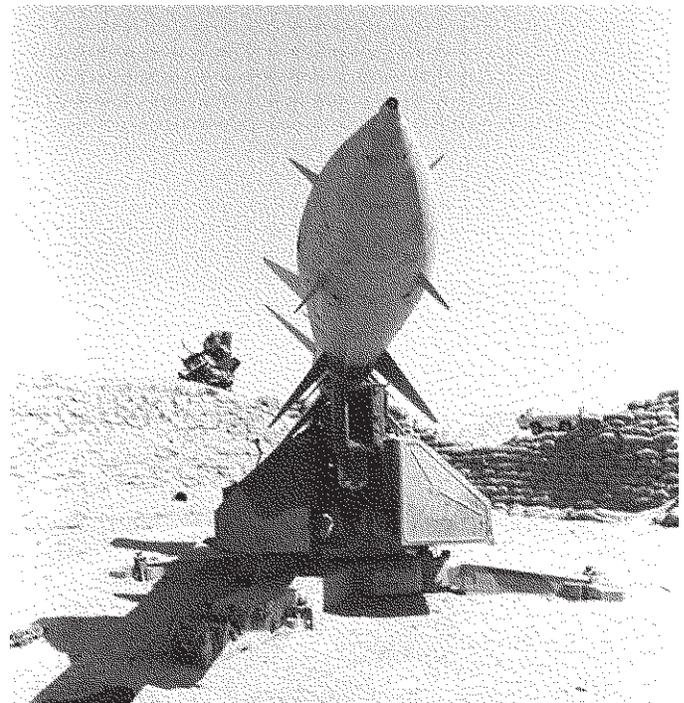
Suppressed AAA concentrations roll a die in each Admin Phase (including the game turn in which suppression was placed on the target). On a roll of 8 or greater, the Suppression marker is removed, regardless of the Suppression Level.

### 18.3 Collateral Damage



If the damage result is asterisked AND the target is in an Urban hex, then collateral damage has occurred. Place a Collateral Damage marker on the hex. The EAF player gains Victory Points for collateral damage

[28.82].



## 19. Electronic Countermeasures

**Design Note:** As the EAF deploys increasing numbers of SAMs and radar-directed flak against the Israeli raids, jamming equipment becomes essential protection against anti-aircraft attack. Standoff jamming aircraft broadcast powerful beams to overwhelm enemy radars, while defensive jammers are fitted to aircraft as underwing pods and other electronic 'black boxes' to deceive or blank out radars.

Electronic countermeasures (termed "jamming") affect *Fire Can* and SAM attacks.

## 19.1 Jamming Strengths

There are two types of jamming: standoff jamming and defensive jamming. These generate a jamming strength value. Jamming strengths are applied to acquisition and combat die rolls as modifiers.

## 19.2 Defensive Jammers

**Design Note:** *As the Egyptian defenses became more sophisticated, the Israelis, learning from United States experience in Vietnam, began to develop and procure defensive jamming equipment. With the purchase of noise jammers from the United States, the Israelis are able to attempt to use onboard jamming to defeat enemy radars. However, the Israelis did not have the same success as the United States did in Vietnam and rarely relied on this tactic*

Aircraft may carry defensive jammers, as noted on the ADC. Defensive jammers are listed as noise or deception jammers.

Defensive jammers have a jamming strength. The jamming strength is applied as a modifier to *Fire Can* attacks and SAM acquisition rolls against the flight. The strength value applies regardless of the number of aircraft in the flight.

**EXAMPLE:** *An A-4 flight with four aircraft has a jamming strength of 3. The strength is still 3 even if the flight is reduced to two aircraft.*

### 19.21 Loss of Jamming

A flight's defensive jamming is temporarily lost in certain circumstances.

- Whenever a flight turns more than its free turn allowance in a hex in a Movement Phase. The jamming loss occurs immediately after the flight has turned and lasts until the flight expends its next MP.
- While the flight is marked with a Maneuver marker.
- The flight declared Anti-Radar Tactics [15.26] that turn.

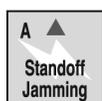
A flight that loses jamming has a defensive jamming strength of zero. It has NO defensive jamming capability for the purposes of SAM defense. Jamming is regained when the loss conditions no longer apply.

### 19.22 SAM Burn-through

**Design Note:** *At close range defensive jammers can no longer defeat the radar's broadcast signal. This is known as the 'burn-through' range.*

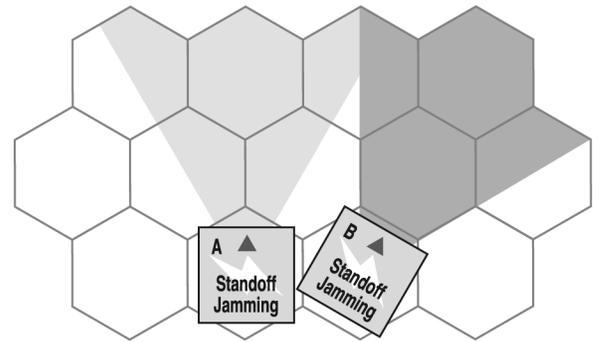
Against SAM units only (not *Fire Can*), a flight's defensive jamming is lost if it is within burn-through range of the SAM. The burn-through range is 0-2 hexes for air units.

## 19.3 Standoff Jamming



A scenario may allocate the IAF player a number of standoff jamming flights organized into jamming missions. The IAF player must decide whether to deploy these missions on-map or off-map.

Each jamming flight has an associated Standoff Jamming marker. Standoff Jamming markers are placed on the map with their arrows pointed toward a hex corner or hexside. Jamming extends out in a 60 degree arc in the direction indicated by the arrow.



**Illustration:** *Standoff Jamming markers radiating jammer arcs toward a hex corner and hex side.*

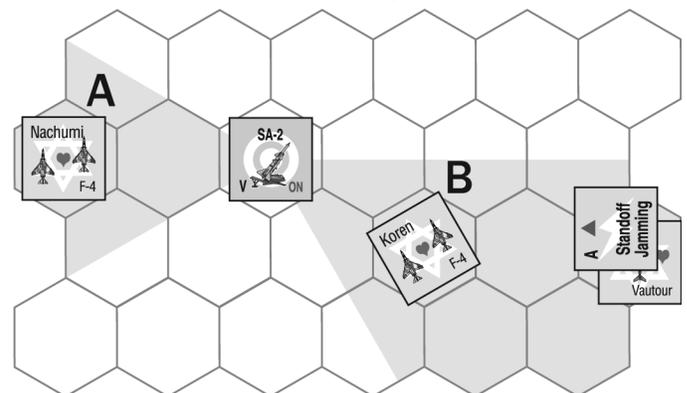
### 19.31 Standoff Jamming Strengths

**Design Note:** *Standoff jamming is most effective when jamming directly into the radar's beam. When the radar is pointed away from the jammer, the resulting 'side-lobe' jamming is less productive.*

Each Standoff Jamming marker has a Standoff Jamming strength. Standoff Jamming strength affects *Fire Can* attacks, SAM acquisition rolls and SAM attacks made by ground units in the jammer arc. It does not affect attacks and rolls outside this arc.

Standoff jamming strengths vary with range and are listed on the ADC. Count the range from the Standoff Jamming marker to the *Fire Can* or SAM battalion. Multiply the strength by the number of undamaged aircraft in the jamming flight.

At the moment of a *Fire Can* attack, SAM acquisition attempt or SAM attack, the EAF player should define a 60 degree arc on the map, projected by the *Fire Can* or SAM battalion. The target's hex must be in this arc (select a hex in the case of targets on hexsides [6.12]). The projected arc must totally encompass the target's hex. The target cannot be in a hex partially covered by the arc. If Standoff Jamming markers are also in the projected arc, their jamming strength affects the radar at full strength, otherwise they affect it at half strength.



**Illustration:** *SAM V attempts to acquire flight A. The standoff jammer is not in the radar's arc (shaded) so affects it at half*

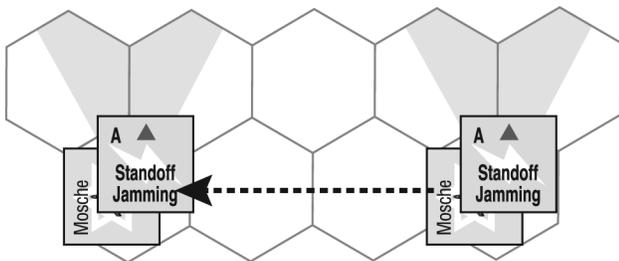
strength. If the SAM tries to acquire flight B, the standoff jammer is in the arc and so contributes its full strength.

Total the strength of all standoff jammers that can affect the radar then round fractions to the nearest whole value (0.5 results round up).

**EXAMPLE:** A Vautour flight with one aircraft affects a SAM battalion making an attack. It is at range 10 and is in the radar arc. The jamming strength value is 1. If the Vautour is not in the SAM's arc, the total is 0.5 rounded up to 1.

### 19.32 On-Map Standoff Jamming

Jamming-capable flights may enter on-map in jamming missions. The Standoff Jamming marker is placed on the jamming flight's counter in the Jamming Phase and can be pointed in any direction. The marker moves with the flight. Do not change the direction the marker is pointed as the flight moves.



**Illustration:** A Standoff Jamming marker is placed on a jamming flight in the Jamming Phase, pointing abeam. In the Movement Phase the flight moves three hexes but the jamming marker does not change its orientation.

If the jamming flight is on or moves onto a hexside, place the marker in one of the hexes either side of the flight.

Flights must be at High altitude to place Standoff Jamming markers. If the flight turns during movement remove the Standoff Jamming marker immediately. It cannot be placed again until the next Jamming Phase.

If the flight is at Medium or a lower altitude, marked with a Maneuver marker or damaged/crippled/shot down, also remove the Standoff Jamming marker. Such flights cannot place Standoff Jamming markers in the next Jamming Phase.

### 19.33 Off-Map Standoff Jamming

If a jamming mission is off-map, no flights from that mission are entered. Instead, each Standoff Jamming marker may be placed on any eligible map edge in the first Jamming Phase of the raid.

In subsequent Jamming Phases, each Standoff Jamming marker may be moved one hex along the map edge, and/or have its facing changed by 60 degrees. However, no marker may move onto a non-eligible map edge hex.

## 19.4 Advanced Jamming Rules

### 19.41 Noise Jamming

**Design Note:** Noise jamming is only effective against SAMs when aircraft fly a tight 'jamming pod' formation. Casualties and hard maneuvers degrade the jamming.

Flights with defensive noise jamming capability lose their jamming against SAM/HAWK units (not Fire Can) when any of the following applies in addition to [19.21] circumstances:

- The flight comprises less than three aircraft.
- The flight is at deck altitude.
- The flight performed a SAM Avoidance Maneuver that turn.
- The flight is making a bombing run for a dive bombing attack. The penalty applies from the moment the bombing run is declared to the moment the attack is resolved.
- The flight is disordered.

### 19.42 Burn-through Limits

**Design Note:** At the limits of burn-through range, burn-through is dependent on factors such as target aspect. The SAM radar does not always get through the jamming.

At the limits of burn-through range (2 hexes) [19.22] the SAM must roll one die to claim burn-through benefits. On a 1-5 the target retains defensive jamming. On a 6-10 the radar burns through and the target's jamming is lost as normal.

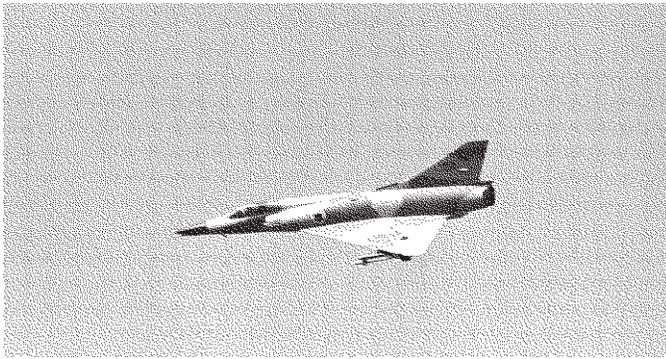
### 19.43 Early Warning Jamming (OPTIONAL RULE)

**Design Note:** Aside from blanking the approach of a raid, early warning jammers could cause temporary disruption to the Egyptian's early warning radars.

Each Jamming Phase roll one die for each aircraft assigned to early warning jamming [28.5]. For each roll of 10, reduce the EAF's Detection Level by one level [10.11] for the remainder of that game turn.

**EXAMPLE:** The EAF has a Detection Level B. The IAF has two flights assigned to early warning jamming. In the Jamming Phase two dice are rolled, rolling a 3 and 10. The EAF has its Detection Level reduced to C for that turn only.

If this rule is being played, the IAF player may not assign more than 2 jamming aircraft to Early Warning Jamming.



## 20. Fuel

Because high-speed flight consumes large amounts of fuel, flights are permitted a limited number of turns at dash throttle.

**Design Note:** *The fuel point totals are the fuel reserve allowed over the combat zone. Each Fuel point represents one minute of flight at maximum power.*

Flights have a limited allowance of game turns they are allowed to spend at dash throttle. This number of turns is equal to the Fuel point value on the ADC. Flights may exceed this allowance during a raid, but if they do so they receive a penalty to their chances of recovering at a friendly airfield.

If the flight travels at dash throttle in a game turn or engages in air-to-air combat, note that it has used one point of fuel on the flight log in the Fuel Phase. Flights never consume more than one point of fuel per game turn, even if they conduct air-to-air combat and fly at dash throttle.

### 20.1 Supersonic Drop Tanks (OPTIONAL RULE)

**Design Note:** *Players will note that the benefits of this rule occur when the aircraft are in the Medium or High altitude band using the supersonic drop tanks to speed them to battle.*

Mirage IIICJ or Nesher units tasked with CAP or Strike/CAP can be laden with drop tanks and may use dash throttle with no fuel expenditure for 5 uses after which time the drop tanks provide no benefit. Aircraft laden with drop tanks use the loaded maneuver rating until the tanks are jettisoned [16.23].

*If a flight laden with drop tanks jettisons the tanks then they are left with internal fuel only. They lose whatever fuel was left in the drop tanks.*

### 20.2 Recovery Rolls

**Design Note:** *Damaged and fuel-low aircraft didn't always make it home. Great efforts were made to nurse cripples back to base or to use emergency airfields as a last resort.*

If a flight exits the map, lands at an airfield or the scenario ends while it is still on the map, it must roll for recovery if:

- a. The flight's fuel allowance has been exceeded.
- b. The flight has damaged or crippled aircraft. (In this instance roll only for the damaged/crippled aircraft,

unless (a) also applies.)

Rolls take place in the Fuel Phase that the flight exits, lands or in the Recovery Phase if it ends the scenario on the map.

Roll two dice for each aircraft (not flight). If the roll is 2 or more the aircraft recovers (lands) safely at a friendly airfield, otherwise it is lost. Modify the roll as follows:

- 3 per point of fuel limit exceeded.
- 2 the aircraft is damaged.
- 7 the aircraft is crippled.

## 21. Random Events

In the Random Events Phase of each game turn (except the first turn of a raid scenario), roll two dice and look up the resulting event on the Scenario Random Events Table. Follow the instructions there. There may be no more than one Random Event per game turn. Some Random Events may be excluded by SSR.

## 22. Weather

**Design Note:** *Weather did not have a profound effect on the air war in this theater of operations. For the most part the weather was clear and visibility was unrestricted. However, the desert terrain did give rise to Dust Devil conditions when winds swirled the sand from the desert and storms could arise that hamper flight operations.*

Weather effects in the game include cloud, haze and good contrast conditions. These conditions are introduced by Random Events or SSR.

### 22.1 Line of Sight

Many game functions rely on there being an unblocked Line of Sight (LOS) from one unit to another.

Draw an imaginary line from the center of the unit's hex (or hexside) to its target. If the intervening hexes contain a broken cloud layer and the range is greater than two hexes, the LOS is also blocked. (If the range is two or less the LOS is not blocked.) Treat ground units/targets as being on the deck for the purposes of this rule. If both units are on the deck and the line passes through a Ridgeline hexside (or a hex corner touched by the Ridgeline artwork), the LOS is blocked.

If the Line of Sight is blocked, then no visual sighting [10.21] is possible, no SAM location rolls [15.13] are allowed and no visual attack bomb runs are permitted [17.3]. Flights rolling to engage in air-to-air combat without a Line of Sight to the enemy must use the Night row of the Engagement Table [11.22].

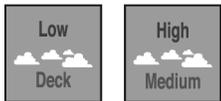
### 22.2 Haze

If Haze is in effect, a haze layer extends from the deck up to the highest band indicated. Flights are in haze if they are flying at these altitude bands.

Haze affects engagement rolls [11.22] and EOGB attacks [17.35].

## 22.3 Clouds

### 22.31 Cloud Layers



A cloud layer exists between two altitude bands. The altitude bands on either side of the layer define it.

**EXAMPLE:** A cloud layer at Deck/Low altitude is considered to be between the Deck and Low altitude bands.

A cloud layer covers the entire map.

### 22.4 Good Contrast Conditions

Good contrast conditions result in a modifier to EOGB attacks [17.35]. This condition will be available by SSR.



## 23. Night

**Design Note:** Most IAF and EAF night raids take place against areas not covered by the maps in use with *Elusive Victory* or were of such a small scale as to not affect the overall war effort. However, players may DYO their own scenario or try a normal scenario using the cover of darkness to see the effect of this tactic.

Night conditions apply where specified by the scenario. Night limits the ability of units to fly and fight.

### 23.1 Night Scenarios

#### 23.11 Moon Phase

The scenario should specify the moon phase: Full or No Moon. Players should choose an option for DYO or alternate scenario setups.

#### 23.12 Visual Sighting

Visual sighting [10.21] cannot take place at night.

#### 23.13 Visual Identification

Flights may not be visually identified at night [10.4]. Do not reveal visual ID information [4.22] to an opponent.

### 23.2 Night Navigation

#### 23.21 Night Flight

Only aircraft equipped with night navigation capability may fly at night. Regardless of speed, the maximum turn value [6.32] of flights at night is 60 degrees.

### 23.22 Terrain Following Flight

**Design Note:** Both the IAF and EAF lacked the sophisticated radars and capabilities to fly very low at night which restricted their night attack capability.

Aircraft may not fly on the deck safely at night unless they are taking off [9.33] or when entering a landing approach [9.34].

A flight that finds itself on the deck must roll one die for each aircraft in the flight for the first deck hex entered via movement, SAM avoidance or scatter in the Movement Phase. On a 1 the aircraft is eliminated by a collision with the ground (1-2 if in a Rough hex). Subtract 1 if No Moon conditions apply.

A flight that is landing or is in the first two turns of flight after taking off does not have to roll for ground collision.

### 23.3 Combat

#### 23.31 Air-to-Air Combat

Night combat modifiers apply at night. No maneuver differential modifiers are applied to air-to-air combats.

#### 23.32 AAA

AAA barrages always apply the “No LOS” modifiers at night.

#### 23.33 Bombing

Only blind bombing [17.3] is permitted at night.



## 24. Recon Missions

**Design Note:** Knowing the result of a bombing attack is vital. Recon missions are sent in shortly after a raid to gather photos of bomb damage. Without these the theater commanders are in the dark about whether the target is destroyed or needs to be struck again.

Recon flights are used to gather Bomb Damage Assessment (BDA) information. In campaign scenarios BDA is a prerequisite for rolling for damage in the Campaign BDA Phase [18.1, 29.34].

### 24.1 Photo Recon Runs

To gather BDA a photo recon-capable flight must complete a recon run over the raid’s target hex. Such a recon must take place no sooner than five game turns after the last attack on the target

or it is an automatic failure. (This allows time for the dust from the attack to settle.)

Recon runs are conducted as bomb runs [17.2], with the differences listed below. Recon runs qualify the flight for the bombing run Flak modifier [14.31]. The flight starts its recon run at an Initial Point (or IP), which must be two hexes from the target and at Deck, Low or Medium altitude band unless Haze conditions exist over the target in which case the recon run is limited to deck altitude. The flight must have a Line of Sight to the target. The flight then moves directly into the target hex without turning or changing altitude.

As soon as the flight has exited the target hex, the recon run is complete. If the recon flight successfully recovers one or more recon aircraft the task is successful and BDA has been obtained, otherwise it has failed.



## 25. Helicopters

**Design Note:** Helicopters are a vital component of both the IAF and EAF. Numerous helicopters were shot down by both sides in air-to-air combat and by ground defenses. The focus of *Elusive Victory* is on the fast moving aircraft utilized by both sides. The helicopter rules remain in this rulebook in case of future expansions or if players who own *Downtown* want to add them to their own designed scenarios.

Helicopters perform Rescue Support and Transport tasks. Helicopter flights comprise a single helicopter with a crew of 3. All helicopters have a maneuver rating of 2. They have no weapons. They do not scatter, suffer Morale Checks, become disordered, enter formations, or have Maneuver markers placed on them. Do not track fuel for helicopters. Helicopters are classed as having Poor SAM defense.

Helicopters have a combat speed of one MP and may not dash. They may freely turn any amount prior to and after their MP expenditure. Helicopters may fly at a speed of 0 MP, in which case they are treated as if they have spent 1 MP when they move, but without moving. They fly only at Low altitude band or below.

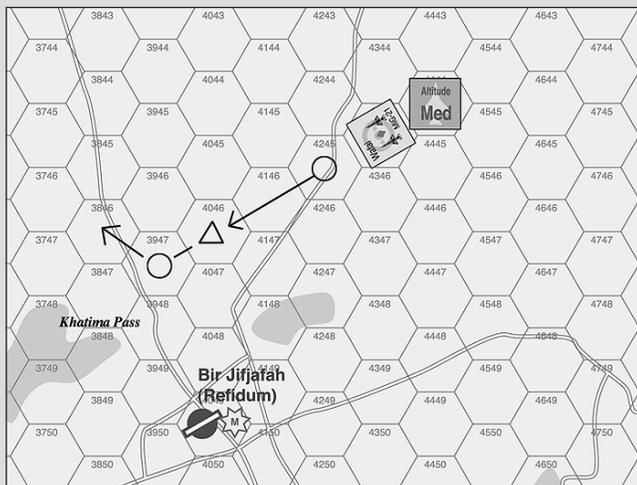
Helicopters on the deck may land or take off in any hex by expending all their MPs for the Movement Phase. Landed helicopters do not move except to take off. If a helicopter stays landed for the whole of the Movement Phase, the enemy player may conduct AAA attacks on that helicopter after all other movement in the phase is completed.

Do not plot flight paths for helicopters. Helicopters may move freely.

### 24.11 Side-looking Cameras (OPTIONAL RULE)

**Design Note:** Both the IAF and EAF had cameras that allowed the photographing of targets from an offset aim point versus flying directly over the target. This lowered the exposure to enemy defenses and allowed the safe return of the vital intelligence photographs.

Players may optionally allow both sides to use offset aim points for recon missions during clear weather conditions. This allows the player to plot recon mission waypoints without overflying the target hex but flying within a certain range to the target following the same restrictions as a normal photo recon run. If the recon aircraft is at Low altitude it may plot a new target hex 1 hex away from target. If at Medium altitude it may plot a new target hex 3 hexes away and at High altitude, 5 hexes away. The flight path must have the target on one side of the aircraft's flight path and not the front of the aircraft.



**EXAMPLE:** A MiG-21R mission is tasked to photograph Refidim airfield located in hex 4049. The EAF player plans to fly the recon run at Medium altitude which will allow a 3 hex offset. The new target hex is plotted as 4046 with an IP hex of 4245 with a heading of SSE to maintain a side look at the target. Once the MiG-21R flight has successfully flown through hex 4046, it is then free to turn and change altitude.



## 26. CSAR

**Design Note:** Rescuing downed aircrew is an important mission for all air forces. Within the theater of operation, rescue operations mainly occurred over friendly territory as for the most part the risk was too great to venture into enemy held ground except during the cover of darkness. For *Elusive Victory*, only the simple CSAR rules are in effect. For players who own *Downtown*, feel free to include the full CSAR rules from *Downtown* if you wish.

### 26.1 Bail Outs



If an aircraft is shot down [12.23], roll a die for each crew member. On a roll of 4 or less the crewman fails to survive, on a 5 or more he bails out and a Parachute marker representing him is placed on the map. Place the marker in the same hex as the flight of the lost aircraft. If the flight is on a hexside, place the marker in the hex where the combat took place [6.12].

If the bailout roll was a 10, the crew member flew some distance before he was forced to bail out. Roll one die and move the marker a number of hexes away from the flight equal to the roll (the player may choose where to move the marker).



The final hex occupied by the Parachute marker is the hex the crew lands in. Flip the marker to its downed crew side. Helicopter crews always bail out into the hex they occupy the moment they are shot down.

It takes a number of game turns before the parachuting crew lands in the hex. Bailouts on the deck happen immediately. Bailouts from Low altitude take 2 turns. Bailouts from Medium and High altitude take 10 turns. Landings occur in the Admin Phase of the game turn.

### 26.11 Crew Loss

If the crew lands in an Urban or Airfield hex, or a hex with an enemy ground unit in it, it is immediately captured and the marker removed from play. If the crew lands in a Sea, Water or Marsh hex, roll a die. On a 1-3 it is lost (i.e., drowned) and the marker is removed from the game. On a roll of 4 or more the crew is safely “in the water” and may be rescued.

## 26.2 Simple CSAR Rules

After checking for crew loss roll two dice. Modify by  $-2$  if the crew is adjacent to an Urban or Airfield hex, enemy ground unit or AAA concentration. **EAF player modifies his roll** by  $-3$  if the crew is within 10 hexes of downtown Cairo (hex 3010). Modifiers are cumulative.

If the modified roll is 8 or more the crew member has been rescued by friendly CSAR units. Otherwise he has been captured by the enemy. Remove the crew marker from play.



## 27. Army Ground Units

**Design Note:** Army ground units depict a myriad of the different types of vehicles, armored personnel carriers, tanks and infantry that fought the ground war. They may represent a convoy or the centralized location of a Division or Brigade.



### 27.1 Army Ground Unit Types

There are three different types of army ground units in the game. Infantry (Inf) counters which represent dismounted and stationary infantry units that are fixed in position and can't move during the scenario. Mechanized (Mech) counters which represent units consisting of trucks or armored personnel carriers and Armor (Arm) counters which represent units consisting of tanks can move 1 hex every 15 game turns if in motion. If the scenario does not state that the ground unit is in motion then it is considered stationary for the duration of the scenario. Army ground units have inherent AAA capability to include Egyptian Army ground units in 1973 having *Gun Dish* capability as outlined in [14.5] and [14.6].

### 27.2 Ground Units as Targets

Arm ground units are target profile B, Mech ground units are target profile C and Inf ground units are target profile D [17.13].



## 28. Raid Scenarios

**Design Note:** While some scenarios try to recreate the exact order of battle and conditions for an historical raid, most of them recreate typical raids of a particular period of a campaign.

Each raid scenario provides the information required to set up and play.

### 28.1 Raid Scenario Format

The information in the scenario is as follows:

**Background.** Historical background to the scenario.

**Targets.** The attacking player(s) secretly rolls one die and reads off his target from the list. Some results may generate multiple targets; the raid is expected to attack all those targets.

The table lists the hex the target is in, the target profile, and what forces are required to attack it.

**Date.** Date of the scenario. Certain aircraft, weapons or capabilities may not be available on the given dates. Check the order of battle tables and ADC notes for date information.

**Time of Day.** This lists whether the raid takes place in the day or at night [23], and the time (using the 24 hour clock) that the first raider enters the map.

**Detection Level.** The detection levels [10.11] for the IAF and EAF players.

**GCI Level.** The player's GCI level [10.12].

**Weather.** Will be clear but may change by Random Event or SSR.

**Open Airfields.** This lists which airfields are open [9.31] and which aircraft types may take off from or land there.

**IAF Order of Battle.** This lists whether an order of battle table is to be used for the scenario or lists the forces available to include the number of dummy air units, number and location of Hawk batteries, EWRs, AAA points and any ground units in play. It also lists the pilot training levels [28.4] for the IAF forces.

**EAF Order of Battle.** The EAF order of battle lists the basic MiG Availability Points (MAPs) or order of battle table to be

used, available aircraft types, number of dummy air units, number of SAM battalions (including the number of located SAMs), dummy SAMs, dummy radars, EWRs, AAA points, *Fire Can* units and any ground units in play. It also lists the pilot training levels [28.4] for the EAF forces.

**Scenario Special Rules.** This lists any SSRs that apply. It also lists conditions such as ordnance/capability, availability, and which maps are in play, etc.

**Victory Conditions.** This lists any changes or alterations to the standard victory conditions [28.8].

### 28.2 EAF Force Purchase

Prior to the deployment of any air units, the EAF player may purchase air units if not directed to use an OOB table. If the EAF player is to use an OOB table then the format is the same as listed in [28.31].

#### 28.21 Purchasing Air Units

**Design Note:** *MiG Availability Points (MAPs) are a measure of aircraft availability for combat and the ability of the EAF to generate sorties. Most scenarios allow a flexibility to purchase different types of aircraft to add to the fog of war and also allow the Egyptian player the ability to try different combinations of aircraft.*

In the EAF Air Deployment Phase the player must purchase the flights to be used during the raid. The scenario indicates the basic number of MiG Availability Points (MAPs) available to expend on air units. The first column indicates the cost to purchase a flight of the indicated type of aircraft. A newly purchased flight consists of one aircraft. The second column indicates the cost to add an additional aircraft to the flight.

**EXAMPLE:** A MiG-17 flight of two aircraft costs  $4+2=6$  MiG Availability Points to purchase. A four-aircraft MiG-17 flight costs  $4+2+2+2=10$  MAPs.

The scenario will indicate which aircraft types are eligible for purchase. A flight cannot mix aircraft of different types and may not be larger than four aircraft. The number of flights of a given aircraft type may not exceed the counter mix. Unspent MAPs are lost and have no further effect on the scenario.

The table below indicates the cost in MAPs for purchasing flights:

<i>Aircraft Type</i>	<b>Cost to Purchase Flight</b>	<b>Cost per Subsequent Aircraft</b>
MiG-17F	4	2
MiG-19S	6	3
MiG-21F-13/PFM	8	5
MiG-21PF/R	8	4
MiG-21MF	9	5
Su-7B	6	3
Su-20	7	4
Il-28	10	5
Hunter	8	5
Mirage 5	9	5
L-29	4	2

## 28.3 Planning Phases

See the Sequence of Play [3.1] for exact order that planning functions must be completed.

### 28.31 Order of Battle Tables

The player generates forces for the raid. Consult the Order of Battle Table (mostly in use for 1973 Yom Kippur/Ramadan War scenarios). This lists the raid forces in three parts: the Pre-Raid, Main Raid and Post-Raid forces. This division is to separate the raid into those units that enter first, second and last [28.32].

Each force comprises one or more missions [8.1]. The player gets all the missions listed for that force. Each mission lists the flights in that mission, the number of aircraft in each flight and their tasks, as follows:

**Number of Flights x {number of aircraft in each flight}  
Aircraft Type, Tasking**

**EXAMPLE:** *An IAF Strike mission is listed as comprising 2x {4} A-4H, Bombing. This strike mission consists of two flights of A-4H, four aircraft in each flight, tasked with bombing.*

If an aircraft type is listed in the description, the flight(s) use that aircraft type. If no aircraft type is listed, just a task type [in square brackets], the player must determine the aircraft type based on its tasking. (See the Order of Battle Tables.)

**EXAMPLE:** *In an October 1973 scenario, an IAF QRA mission is listed as: 1x {4} [CAP], CAP. Refer to the Aircraft Type section of Order of Battle Table C. Under CAP Tasks it says to roll two dice to determine the number of aircraft and aircraft type. As it is an October 1973 scenario, a roll of 1-6 results in four aircraft and a roll of 7-10 results in two aircraft. A 2nd DR result of 1-2 results in F-4Es. A roll of 3-7 results in Mirage IIICJ and an 8-10 results in Neshers.*

Scenario special rules (SSRs) may list variant orders of battle for entire raids or missions within a raid.

### 28.32 Attack Planning

The attacking player(s) plots the flight path for the raid [8.31] and the game turn of entry for each mission. At least one flight from the mission must enter the map or takeoff on that game turn. The remaining flights may enter on any game turn thereafter.

All pre-raid forces must enter the map before the main raid forces may enter. Post-raid forces only enter after all main raid forces have entered.

Some scenarios permit multiple raids to enter the map simultaneously, each with a separate target. Plot a separate flight path for each raid.

The IAF player should follow mission planning rules from Aircraft Combat Radius Table on IAF Aircraft Data Chart to determine which aircraft types have the range to a target hex and whether they need drop tanks or not.

### 28.33 Defensive Planning

The defending player(s) secretly plots the location of each HAWK/SAM unit, dummy SAM and dummy radar, filling out an entry on the log sheet and noting the hex the unit sets up in.

Any ground units for the scenario are placed at this time.

The IAF player also plots the locations of additional AAA and EWR.

The EAF player also plots the locations of additional AAA and *Fire Can* units. Note the hex and density of each concentration and the hex of each *Fire Can* on the EAF log sheet.

[28.61, 28.62] list restrictions on EAF AAA and SAM set-up.

## 28.4 Flight Quality Generation

**Design Note:** *Pilot quality is a decisive factor in combat as reflected in the Aggression Value. It is the product of each air force's experience and training. The IAF has a qualitative edge over the EAF especially in regards to the pilots who flew the Mirage IIICJ.*

The scenario will list pilot training levels for the forces on each side: Rookie, Trained, Regular, Veteran or Ace. When filling out the flight details on the log sheet, roll two dice for each flight on the Flight Quality Table, referencing the flight's pilot training level to determine the Aggression Value. Note the value on the flight log.

**OPTIONAL RULE:** Do not roll a flight's Aggression Value until the first time the value is needed for air-to-air combat or a morale check roll.

## 28.5 Early Warning

**Design Note:** *The first clue the enemy has of an attack is when the raid first appears on their plotting boards. Early warning is the product of radar intelligence, as well as the myriad of ground observer posts dotted along likely approach routes. Timely warnings can give the EAF time to guess the approximate target and scramble aircraft into position.*

After both sides have finished planning, an SSR will note whether the EAF player gets to roll for Early Warning to see how much information must be revealed about the raid.

The IAF player may allocate standoff jamming aircraft to early warning jamming to obtain modifiers to the early warning roll. Standoff jamming flights used for early warning jamming may not be used for standoff jamming during the raid.

Roll two dice and add the indicated modifiers. Follow the resulting instructions regarding MiG set up and the information to be given to the EAF player.

### 28.51 Early Warning Radars On-Map

**Design Note:** *Both the Egyptians and Israelis fielded a robust quantity of Early Warning Radar systems to provide information on enemy aircraft. These became crucial targets to eliminate so as to degrade and neutralize the command and control of the enemy.*



Both sides may be allocated EWR markers to augment their detection capabilities. If a side is allocated a EWR, they may place it hidden on the map until it is used, at which time it becomes located on map. The EWR will provide an additional detection check on the B column

with appropriate modifiers for any aircraft within 20 hexes of the EWR or within 10 hexes if on the deck. EWR is a Profile D target [17.13]. *EWR may be setup in any non-marsh/non-water hex in either the Sinai for IAF or Egypt for the EAF.*

## 28.6 Set Up

### 28.61 AAA Set Up

In the Ground Deployment Phase all AAA upgrades and half the number (round up) of purchased AAA concentrations (not AAA points) must be set up on the map, either active or inactive as desired [14.11]. The remaining AAA concentrations are hidden and inactive at the start of play.

AAA concentrations may be placed in any land hex. No more than one concentration may be set up in a hex (so additional AAA cannot be stacked in a hex with printed AAA).

Concentrations may be placed in Rough or Marsh terrain hexes within the following restrictions: only Light concentrations may be placed, and only in Urban, Installation or Road hexes. *Fire Cans* set up hidden in the same hexes as AAA concentrations [14.41, 14.42].

### 28.62 SAM Set Up

The scenario specifies the number of real SAM battalions (not dummies) that set up located on the map in the EAF Ground Deployment Phase. The EAF player can locate more battalions during set up, if he wishes. All remaining SAM units set up hidden. NOTE: IAF Hawk batteries have their locations fixed for the most part. Scenario setup will indicate where they are located or can be setup.

Dummy SAMs set up located on the map. Dummy radars may set up located or hidden, EAF player's choice.

SAM units, real and dummy, must be placed in land hexes. Battalions must be sited within one hex of a Urban hex or in a Highway hex. SAMs may not set up in a Rough or Marsh hex unless it contains Urban or Highway terrain. They may not be placed adjacent to a Ridgeline hexside. Only one SAM unit may be sited in a hex.

See the Scenario Book for specific rules for active Egyptian SAM defense zones as noted by SSR.

### 28.63 EAF Aircraft Set Up

In the EAF Air Deployment Phase the EAF player places flights at airfields, in ready/unready/revetted states, or already positioned in the air. The early warning level [28.5] determines which flights may set up already in the air. Flights may only set up at an airfield if it is eligible to take the aircraft type, as listed in the scenario [28.1]. Flights at each airfield may set up ready [9.32].

Dummy flights may set up in the air, or at an airfield like MiG flights. Dummy flights may take off like regular flights.

Flights that start in the air near orbit points/airfields are placed at any altitude band within three hexes of an open (not closed) airfield.

All EAF flights begin the raid undetected.

### 28.64 IAF Aircraft Set Up

The IAF player sets up all flights entering on the first game turn off-map at the edge of the map next to their ingress hex [8.11] or as directed by the Scenario. They begin detected or undetected as indicated by the Early Warning level [28.5] or as per warning result B if no Early Warning Phase is in effect. Flights enter on their mission's plotted game turn of entry or thereafter. IAF flights that enter on subsequent game turns must set up at the end of the Admin Phase prior to entry.

Pre-Raid jamming missions plotted as off-map standoff jamming [19.33] do not enter the map. Instead, standoff jamming markers are placed in map edge hexes.

### 28.65 Radars

In the Radar Phase the player(s) may switch on any *Fire Can/Gun Dish* or SAM radars he wishes. If an unlocated SAM or dummy radar switches its radar on, place a SAM Warning marker with the appropriate ID on the map [15.12]. Inactive AAA may be activated in this phase [14.2].

### 28.66 Pre-Raid Forces (OPTIONAL RULE)

To save playing time, the IAF player can set up pre-raid forces on the map, provided the EAF player agrees to this. Pre-raid forces include jamming and Egrof (SEAD) flights. On-map set-up should be agreed before the Early Warning Phase. On-map set-up improves the EAF player's Early Warning level by one. All pre-raid forces set up on-map are detected, regardless of the Early Warning result [28.5].

Pre-raid forces set up on-map can set up anywhere. MiG units that set up in the air cannot set up within ten hexes of a pre-raid unit, and EAF players should consider the potential consequences of this restriction before agreeing to use this rule.

The IAF player is welcome to outline his set-up before the EAF player agrees if this makes agreement easier.

## 28.7 Raid Completion

The raid is completed either when the last attacking flight has exited the map, or both players agree to end the raid because it is unlikely that there will be any more combats.

## 28.8 Victory Conditions

At the end of a scenario, both the IAF and EAF players total their Victory Points.

If the target is underlined in the scenario target list, use the VP values (*in parentheses*).

Where there are multiple targets (such as at an airfield) total the VPs for each target then divide by the total number of targets and round up to determine the VPs.

**EXAMPLE:** *An airfield has a heavily damaged runway, a slightly damaged tower and slightly damaged revetments. The VPs are 4 for the runway and 2 each for the tower and revetments. The total VPs are  $(4+2+2)/3=3$ .*

### 28.81 IAF Victory Points

IAF player scores Victory Points as follows:

VPs	Objective Achieved
1	<b>No BDA.</b> There is no successful BDA by the enemy of their target. (Only applicable for EAF raids)
6 (10)	<b>Target Destroyed.</b> The raid target is totally destroyed.
4 (8)	<b>Heavy Damage.</b> The raid target is heavily damaged.
2 (4)	<b>Slight Damage.</b> The raid target is slightly damaged.
0	<b>No Damage.</b> The raid target is undamaged.
2	<b>Aircraft Destroyed.</b> VPs are for each enemy aircraft lost either shot down or crashed.
1	<b>SAMs.</b> VPs are per SAM battalion damaged.
2	<b>SAMs.</b> VPs are per SAM battalion destroyed.

### 28.82 EAF Victory Points

The EAF scores Victory Points as follows:

VPs	Objective Achieved
1	<b>No BDA.</b> There is no successful BDA by the enemy of the target. (applicable only for IAF raids)
4	<b>Aircraft Destroyed.</b> VPs are for each Israeli aircraft lost either shot down or crashed.
1	<b>Crews Lost.</b> VPs are for each crewman killed or captured aboard a lost IAF fighter.
6 (10)	<b>Target Destroyed.</b> The raid target is totally destroyed.
4 (8)	<b>Heavy Damage.</b> The raid target is heavily damaged.
2 (4)	<b>Slight Damage.</b> The raid target is slightly damaged.
0	<b>No Damage.</b> The raid target is undamaged.
1	<b>HAWKs.</b> VPs are per Hawk battalion damaged.
2	<b>HAWKs.</b> VPs are per Hawk battalion destroyed.
1	<b>Collateral Damage.</b> VPs are per collateral damage counter.

Aircraft that are lost as a result of recovery rolls [20.2] count toward VPs, but their crew don't (they are assumed to be picked up or rescued).

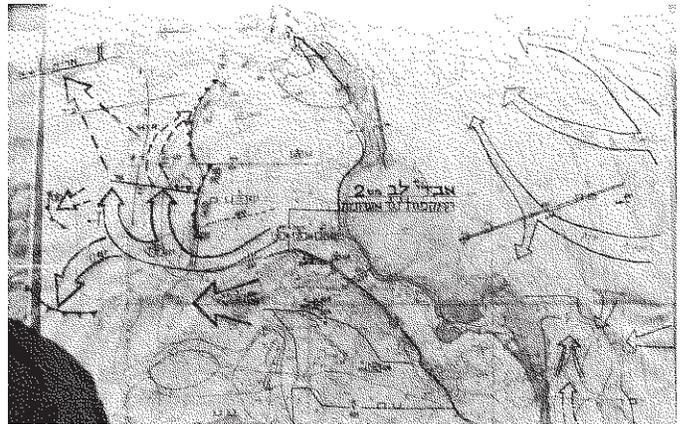
When using the CSAR mechanics [26], each recovered crewmember scores zero VPs for the EAF, but each captured crewman scores double.

### 28.83 Victory Levels

The victory total is obtained by subtracting the EAF VP total from the IAF VPs. The result can be a negative value. The victory total determines the victory level as follows:

VPs	Victory Level
≥ 13	<b>Decisive Victory.</b> Your forces perform a dazzlingly successful mission. Decorations and Medals are awarded. Celebrations held in your honor.
9-12	<b>Victory.</b> The mission was a success and the objectives were achieved. The media announce significant material damage inflicted on enemy.
5-8	<b>Inconclusive Operation.</b> Objectives were not achieved. The target may have to be reattacked.
0-4	<b>Defeat.</b> The objectives were not achieved. The target will probably have to be reattacked. Media denounces your attacks as ineffective
< 0	<b>Significant Defeat.</b> Objectives were not achieved and Arab political leaders proclaim a great victory over the enemy.

**Design Note:** These victory levels are designed to create a balanced and exciting play experience. But historically this was a war of attrition and the Israelis were mindful of casualties as their smaller air force could not sustain large amounts of casualties and maintain air superiority while the Egyptians could at least replace hardware lost through Soviet resupply efforts.



## 29. Campaign Game

**Design Note:** Campaign game missions provide a more long term look at the effect of sustained operations against a target array. They allow for damage to accrue over time and defenses to be degraded allowing for military and political conditions or terms to be met.

The campaign is a series of consecutive raid scenarios, simulating a number of days of air raids.

### 29.1 Campaign Game Concepts

**Campaign Type.** Campaigns are designed to be played with the IAF player as attacker.

**Days.** A campaign is divided into a number of game days. To complete a game day the players must play a number of raids as noted on the campaign scenario.

**Target List.** The campaign target list shows all the targets eligible to be attacked in the campaign.

## 29.2 Campaign Scenarios

The information in campaign scenarios is as follows:

**Target List.** The campaign target list shows all the targets eligible to be attacked in the campaign. It also lists the target locations and profiles.

**Background, Date, Detection Level, GCI Level, Open EAF Airfields, IAF Order of Battle, SSRs.** This information is exactly the same as in scenarios. Note that it applies to all raids in the campaign.

**Campaign Length.** This is the number of days in the campaign. The campaign ends once all days have been played.

**Weather.** The weather for a campaign is listed as clear unless there is optional agreement to change weather conditions as a hypothetical situation.

**EAF Order of Battle.** This lists the number of SAM battalions, dummy SAMs, dummy radars, AAA points and *Fire Can* units the EAF player has. It also lists the air unit dummies and pool of MAPs available to the EAF player.

## 29.3 Days

The day is an administrative division in the campaign. Players will play a number of raids in a day based on the scenario. At the end of the day they tend to administration and then plan for the next day's raids.

### 29.31 First Day Planning

Prior to the first day the IAF player plans all the raids for the day.

### 29.32 Planning

Planning in the campaign is exactly as for scenarios, except that it takes place prior to the day's raids being played. When planning a raid the IAF player may by mutual agreement between the two players, secretly chooses their target from the target list instead of having to roll for it.

### 29.33 Raid Execution

Each raid is played, in the order set by the IAF. Raids are played exactly as scenarios except with the following changes.

- The EAF ability to set up ground units is restricted [29.42].
- There is no IAF Planning Phase for a raid, since raid planning is done prior to the current day [29.31, 29.32].
- The EAF may not trade VPs for extra MAPs.
- Damage is not rolled for at the end of the raid. Instead this is deferred to the Campaign BDA Phase [29.34]. Leave the Attack Success Value marker on the target.

Campaign victory is not assessed after the raid.

### 29.34 End of Day Administration

After all the day's raids have been played and resolved, a number of end of day Administration Phases are conducted. These comprise the following phases, in order:

**Campaign BDA Phase.** The IAF player rolls for damage on all targets marked with Attack Success markers that have been successfully photo-reconned for BDA. Those targets that have not been photo-reconnoitered for BDA that day leave the Attack Success markers in place.

**EAF Refit and Redeployment Phase.** The EAF player receives replacements for damaged or destroyed SAM battalions, dummy SAMs, dummy radars and *Fire Can* units. They may relocate some ground units to other hexes. After all replacement and relocation is complete SAM, AAA and *Fire Can* units are hidden. A number of those units must then be revealed [29.45].

**IAF Day Planning Phase.** The IAF Player plans all raids for the following day and decides the order the raids are played in. (This is done as for the first day planning, [29.31])

**New Day.** A new campaign day begins.

## 29.4 EAF Campaign Rules

### 29.41 EAF Air Units

The campaign scenario may give the EAF a fixed pool of MiG Availability Points with which to buy flights in the Planning Phase of each raid. This MAP pool must last for the entire campaign. On every second day of a campaign (e.g. 2nd, 4th etc), the EAF player will receive 10 MAPs as a replacement pool for lost aircraft.

### 29.42 EAF Ground Units

The EAF player plots and sets up ground units on the first raid of the first day of the campaign. After that point, his ability to alter the deployment of ground units is limited. The EAF may not alter the set-up from raid to raid, except as allowed [29.45].

At the end of each raid, all SAM, AAA and *Fire Can* units that started the scenario hidden become hidden and unlocated again. SAMs and AAA that were located at the beginning of the raid stay located.

### 29.43 Persistence of Damage and Destruction

At the end of a raid, all AAA suppression is removed from AAA concentrations. However, damage to or destruction of SAM battalions, dummy SAMs, dummy radars and *Fire Can* units persists to subsequent raids on the same day.

**EXAMPLE:** *In the first raid of the day a Fire Can unit is destroyed. That Fire Can remains destroyed for all other raids later that day.*

At the end of a day, in the EAF Refit and Redeployment Phase all damaged or destroyed SAM battalions, dummy SAMs and *Fire Can* units are removed from play and replaced with new ground units of the same type. Destroyed or damaged dummy radars are not replaced.

Damage to all other ground targets persists from raid to raid and day to day in a campaign. Targets are never repaired. If an airfield is closed as a result of bombing [9.31], it remains closed for the day until an Airfield Repair DR is made [29.71].

If the IAF player fails to photo-recon an airfield target for BDA the EAF player must roll for the damage in secret, keep a note of it, and reveal it to the IAF player at the end of the campaign.

#### 29.44 SAM Ammo

At the beginning of each raid, SAM battalions are reloaded with a full complement of SAM shots.

#### 29.45 EAF Redeployment

In the EAF Refit and Redeployment Phase, the EAF may change the set-up location of AAA concentrations, SAM battalions, dummy SAMs, dummy radars and *Fire Can* units.

All SAM battalions (including dummy SAMs and radars), half of all *Fire Can* units and half the EAF's AAA points may be redeployed in a phase (round halves up). AAA concentrations that are printed on the map may never be redeployed, although points used to upgrade printed concentrations may be.

The redeployed units set up in any eligible location for their unit type. Replacement units received as a result of damage or destruction also set up in any eligible location—they do not have to be deployed in the hex of the unit they replaced.

After all redeployment is complete, all SAMs, non-printed AAA and *Fire Can* units become hidden. The EAF player must then reveal half the number of purchased AAA concentrations. A number of SAMs equal to the located value listed in the campaign scenario must also be set up on the map located. Dummy SAMs are always set up located.

**Design Note:** *IAF intelligence keenly tracks the deployment of the EAF's air defenses. Electronic listening intelligence (or ELINT) is vital for following the movements of the SAM units. This ELINT capability is represented by the located SAM value in the scenarios.*

## 29.5 IAF Campaign Rules

### 29.51 Capabilities and Weapons

Some aircraft capabilities and weapons are limited by ADC notes and SSRs. The IAF player may only use these if explicitly permitted by the campaign scenario.

The campaign scenario may list restrictions or limits on the use of capabilities and weapons, such as the maximum number of times they may be used in a campaign.

## 29.6 Campaign Victory

After all the campaign days have been played out, the campaign ends. Roll for all remaining unresolved damage. Then players total the Campaign Victory Points (CVP) they scored over all the raids.

### 29.61 Campaign Victory Points

The IAF scores campaign Victory Points as follows:

CVPs	Objective Achieved
6 (10)	<b>Target Destroyed.</b> The raid target is totally destroyed.
4 (8)	<b>Heavy Damage.</b> The raid target is heavily damaged.
2 (4)	<b>Slight Damage.</b> The raid target is slightly damaged.
2	<b>MiGs.</b> CVPs are per EAF aircraft lost. (Add 1 CVP for each MiG shot down over an all-sea hex.)
1	<b>SAMs.</b> CVPs are per SAM battalion damaged.
2	<b>SAMs.</b> CVPs are per SAM battalion destroyed.

The EAF scores campaign Victory Points as follows:

CVPs	Objective Achieved
2	<b>No BDA.</b> For each target struck for which there is no successful BDA.
4	<b>Aircraft Destroyed.</b> CVPs are for each IAF aircraft lost (either shot down or crashed).
2	<b>Crews Lost.</b> CVPs are for each crewman aboard a lost IAF fighter.
1	<b>Collateral Damage.</b> VPs are per collateral damage counter.

Aircraft lost as a result of recovery rolls [20.2] count toward CVPs, but their crews don't.

When using the CSAR mechanics [26], each recovered crewmember scores zero VPs for the EAF, but each captured crewman scores double.

### 29.62 Victory Levels

The victory total is obtained by subtracting the EAF CVP total from the IAF CVPs. The result can be a negative value. The campaign scenario will list the total CVPs for each victory level, and what the victory levels represent.

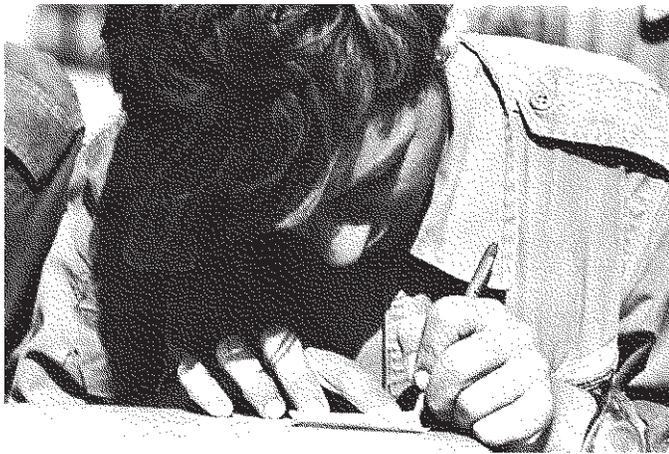
## 29.7 Advanced Campaign Rules

### 29.71 Airfield Repair

Airfields with runway damage must be repaired first before that airfield may open again. Each EAF Refit and Redeployment Phase roll one die and cross reference with the damage taken by the runway:

Damage	Roll
<b>Slight</b>	6+
<b>Heavy</b>	8+
<b>Destroyed</b>	10

If the die result is equal to or greater than the roll value, the runway damage is repaired. Airfields may not reopen if the runway remains damaged.



## 30. Designing *Elusive Victory*

Commentary by Terry Simo with additional background previously printed in *Downtown*.

### 30.1 Why the Middle-East?

The air war over the Middle East during the period of 1967 to 1973 is a perfect fit for adapting the *Downtown* game system to another theater of operations. While it doesn't have the same asymmetric battle environment as portrayed with *Downtown*, it does provide a different playing experience for both sides. Fought over seven years, the air campaign was marked by two well known battles (1967 Six Day War and 1973 Ramadan/Yom Kippur War) and a lesser known but significant War of Attrition in the years between. During this timeframe air power and the air defenses of both countries evolved and even included the interest and combat power of two superpowers (the United States and Soviet Union).

It was also a clash between Soviet and Western weapon systems. The Israelis fielded initially a French supplied Air Force which in turn became a primarily United States supplied force in the late 60's/early 70's. The Egyptians on the other extreme were primarily supplied by the Soviet Union.

As with *Downtown*, the focus for *Elusive Victory* is not on the strategic or operational war, but on the tactical and technical battle. It's about the day-to-day victories of air power against determined defenders. Vietnam was quoted as having the most lethal air defense system the world had ever seen but considering the Egyptians received even more advanced weaponry than the Vietnamese, an Israeli pilot may beg to differ on where the most lethal air defense system in the world was located.

### 30.2 The Concept

The idea for *Downtown* came out of conversations that Lee Brimmicombe-Wood had with Tony Valle about a new kind of air wargame. This would feature large numbers of aircraft operating in flight-sized units across a theater-sized map. At this game scale, aircraft performance mattered less than sensors, systems, weapons, leadership, command and control. The fundamental notion was to test what happened when a 'gorilla package' of bombers and support aircraft penetrated an Integrated Air Defense System (IADS).

The original idea focused on a Gulf-like scenario. Adapting this to Vietnam took an enormous effort. Many concepts were tried and ditched along the way but the central tenets held: the basic maneuver unit was to be the flight, and the game would test raid packages against an IADS.

Translating the *Downtown* system to the Middle East was not as daunting a task as would be thought. There are however major differences in the two games. The main difference is the fact that both sides can possibly attack during a scenario and both combatants have an IADS to manage. This brings into play a symmetry that wasn't present in *Downtown*. Many scenarios will seem quite similar to players familiar with *Downtown*, but many scenarios will provide players with new challenges and tactical problems to overcome.

### 30.3 Scale

The *Downtown* game system went through about three separate scales before settling on the current 2.5 nm/hex and 1 minute/turn. With this scale it was possible by using a 2-map setup to allow a significant portion of Egyptian territory and the Sinai to be depicted in detail. The map area allows players to appreciate the magnitude of the problem facing each nation and also covers the majority of major targets.

### 30.4 Aircraft

The game models aircraft performance very broadly, because its real focus is on systems, weapons and capabilities. At this scale, fine details of performance are not as important as whether an aircraft has a particular method of bomb delivery or can carry PGMs.

In some cases capabilities have been denied to aircraft that had them on paper. This was because they were ineffective or were not a factor in the battles represented in the game.

### 30.5 Intelligence and Detection

Intelligence on enemy forces manifests itself in *Elusive Victory* in three ways: through the detection mechanics, visual identification and the engagement rolls.

Prior to advances in radar and command and control, fog of war was a real problem for airborne forces. Detection favors the defenders who are operating over their home ground. The lower altitudes, beneath the radar cover, are a haven for attacking aircraft. Dummy units help make the fog of war work in the absence of an umpire.

Players may find it strange that a flight can be detected by visual sighting and not be visually identified, or detected and not be picked up by an engagement roll. However, the 'air picture' is a fragile thing, not always communicated perfectly to the pilots at the sharp end. Procedures and communications can fail, and the human element can often prevent information from being used in a timely manner.

### 30.6 Organization and Navigation

Air units behave much as their historical counterparts did. The tasking system fell out of the need to distinguish between the roles of aircraft rather than their simple capabilities. An F-4 that is bombing behaves very differently compared to one that is on a Combat Air Patrol.

The plotted flightpath is a simplification of the planning procedures real-life raid commanders went through and forces the player to stick to the script, rather than exploit the God's-eye view of the battle.

### 30.7 Air Combat

Air battles of this era were rarely decisive unless one side or the other had surprise or superior training, and the air combat system reflects this. Casualty rates were low and players shouldn't expect too many shootdowns except when fighting against a superior trained force such as the IAF Mirage IIICJ units whose Ace aggression level will allow them more shot opportunities. However, it's not always necessary to get kills to be successful. Enemy pilots who force attacking bombing flights to jettison their stores before reaching their target have more than earned their combat pay.

Given that air combats in the game are infrequent, Lee opted for a detailed treatment of combat, going through the stages from approach to maneuver to shooting to disengagement.

Some of the details are worth explaining: The IAF's flight tactics are quite similar to the US Navy's two-ship 'loose deuce' formations. The Egyptian forces were initially hampered due to their strict Soviet training but were able to evolve from hard earned experience against the Israeli pilots to a more fluid combat style.

The maneuver differential is an assessment of relative aircraft performance. Maneuver ratings account for wing loading, top speed and excess power and are an overall rating.

Historically, training, tactics and pilot quality were often decisive in securing kills. Adopting the term 'Aggression value' for this reflects the extent to which the willingness to close and fight is a key aspect of these 'human factors'.

The Morale check mechanism has less to do with élan and more to do with maintaining formation and unit cohesion after a fight. Once a flight's cohesion goes and it becomes disrupted, it can no longer operate offensively.

### 30.8 Surface-to-Air Weapons

As in designing *Downtown*, finding an accurate AAA order of battle for the EAF was impossible, so the system of AAA concentrations is both an abstraction and a reasonable extrapolation of the flak defenses. Flak is one of the biggest killers in any air war. But to do its job flak doesn't have to shoot down enemy strike planes, it simply has to reduce their chance of bombing successfully.

AAA barrage assumes that barrage fire obeys a law of diminishing returns. Adding Medium flak to Medium flak doesn't make it much more effective. This is why only one (usually the densest) barrage in a hex is counted and is not cumulative.

SAMs were originally a much simpler rule, but the *Downtown* playtesters wanted to recreate the cat-and-mouse contest of the SEAD forces against the EAF's 'rocket forces'. This led to a more detailed treatment that accounts for the advances in the electronic battle (jamming, jamming cells, etc.) and defensive options such as SAM Avoidance maneuvers. Anti-radar tactics are not so much formal tactics as good practice when defending against SAMs.

### 30.9 Air-to-Ground Weapons

At the end of the day, for most scenarios the IAF player's job is to "move mud": get bombs on the target. The air to ground system is a comprehensive model of the bombing techniques used in the war. In particular the game depicts the difference between 'dumb' (i.e., unguided) bombing and the introduction of guided munitions during the '73' War.

Players are deliberately kept from being able to weaponize their aircraft. Some players may lament they can't work out bomb loads on a weapon-by-weapon basis, but abstracting this to a simple 'bombs' rating was a necessary simplification. For the record, one point of bomb strength is 2,000lb of munitions or the equivalent. Differentiating between bombing success and actual combat results is important for two reasons. First, it removes the God-like omnipotence of the player. They don't truly know the results of bombing until they get back to base, and so can't assume that an apparent success by one bombing flight means the target is destroyed. Second, in the campaign, failed BDA forces the player to consider whether or not to re-attack a target to make sure they've finished the job.

### 30.10 Electronic Warfare

The electronic warfare rules have gone through many revisions. The current rules are by far the simplest and have reduced some complex interactions to simply adding up modifiers, though at the cost of some subtlety.

The big advances in electronic warfare were the deployment of standoff jammers, radar warning receivers, defensive jamming equipment. From 1967 through to 1973, players should be able to follow the progression from having no countermeasures to a more robust EW suite.

Electronic Warfare in *Elusive Victory* is less robust than in *Downtown* but players will get a feel for what it was like to go against a robust Integrated Air Defense System without the full EW capabilities like those fielded by the USAF/USN in Vietnam.

Other areas of the electronic war, such as signals intelligence, are built into the detection, set up and early warning mechanics.

### 30.11 Fuel

*Downtown* had a fairly generic fuel reserve built in which equated to about 5 minutes of full power combat reserve. This was applicable due to the long distances flown by USAF/USN strikes in *Downtown*. *Elusive Victory* allows for a bit more leeway and a more broad range of fuel reserves based on aircraft capabilities is taken into account. Also some aircraft had reduced bomb loads based on distance to target and that is taken into account with their ADC notes.

### 30.12 Orders of Battle

For the early portion of *Elusive Victory* scenarios, the IAF OOB is provided by the scenario setup. This is for the most part because the scenarios themselves have a set listing of aircraft available for the mission based on the historical data. For the later war scenarios, 1973 Yom Kippur/Ramadan War, a more conventional OOB, similar to *Downtown* is available and provides some variety on what aircraft type are available increasing the replayability of those scenarios as well as providing the enemy with some increased FOW on what to expect

EAF orders of battle are the subject of speculation. We have estimates of aircraft numbers, but until more data is released to the Western reader, the information on total aircraft available and the basing of these aircraft fluctuates or is nonexistent. It was impossible to research the locations of all prepared SAM sites, so the SAM deployment rules account for likely set-ups.

### 30.13 Ground Units

Adding ground units to *Elusive Victory* was a big decision. In *Downtown*, the U.S. forces are attacking infrastructure targets and the CAS/BAI portion of the air was that was flown over South Vietnam was not portrayed. However, in the Middle East, almost every conflict involved the whole gamut of mission types and it would not be historical to exclude them from *Elusive Victory*. Ground units represent a myriad of different organizations from a convoy of trucks or tanks to a brigade or more of ground troops.

### 30.14 Scenarios and Campaigns

The scenarios are representative of different periods of the wars. In most cases they depict actual missions.

MiG Availability Points during the War of Attrition represent the uncertainty the IAF player has about the size and composition of the fighter force they are facing. While in later scenarios the IAF faces a more robust EAF that has an OOB comparable to theirs.

Not all situations in the war are represented. The game is, in part, a 'tool kit' for players to create their own scenarios and experiment with alternatives.



## 31. Tactical Hints

### 31.1 Tactics

Tactics are based on an understanding of the raid forces and how they all fit together in the tactical 'jigsaw'. The player controls many different kinds of aircraft, each with a specialist job to do. The first step to understanding tactics is to look at the order of battle tables and see how a raid is broken down into forces and missions.

#### 31.11 Pre-Raid Forces

The IAF player is the only player that will benefit from pre-raid forces. The job of the pre-raid force is to enter the map first and provide electronic protection for the main raid force.

The job of the jamming mission is to impair SAM acquisition and the effect of *Fire Can* units. Don't underestimate the value of the electrons these birds broadcast. The rule is "all 'trons are good 'trons". Even small standoff modifiers can tip the balance in a SAM or *Fire Can* engagement.

Standoff jamming strength is greatest when the SAM or *Fire Can* is looking in the direction of the jamming aircraft. So the best place to position standoff jammers is along the axis of the raid flightpath.

Off-map jammers are safe from enemy MiG attacks, but the enemy radars will be at long range where jamming strength is weakest. On-map jammers can creep closer to the radars, but are vulnerable to enemy attack.

#### 31.12 Main Raid Forces

The heart of the raid is the strike mission. This should enter with all the flights close together, so they can be on and off the target in the same game turn. The sole task of the CAP flights is to keep enemy fighters at bay. They can stay with the Strike mission, peeling off to engage approaching enemy fighters or they can sweep ahead of the bombers.

Egrof (Fist) missions, available to the IAF in later scenarios, have the job of keeping enemy AAA and radars (SAM and *Fire Can*) quiet. Bombs are the most lethal method of silencing the SAMs, but ARMs are good at forcing radars to shut down briefly.

Egrof (Fist) flights should enter one to five turns ahead of the Strike mission, clearing a path for the bombers. They should hang around until the strike has gone before they leave. Armed Escort flights are great for suppressing AAA concentrations around the target and have a secondary role as CAP.

### 31.13 Post-Raid Forces

Getting the recon flight through is vital, to get battle damage assessment of the target. Recon flights fly fast using dash speed to avoid trouble. It may be worth leaving some of the main raid CAP behind to cover the recon mission. Also using the optional rule for side-looking camera ability can go a long way to reducing the risk to your BDA flights.

## 31.2 EAF Specific Tactics

The EAF does not have the quality of pilots to destroy the IAF in a head to head battle. But they *can* stop the raiders from completing their mission. If the EAF player can get the Israelis to go home empty-handed, target unharmed, it's an EAF victory. Shootdowns are not necessary to achieve this goal. Instead, the EAF must attempt to intercept and force the jettison of ordnance from IAF strike flights.

The EAF player should remember that a 'mission kill' is any kind of result that stops the IAF flights from doing their job. For example, a bombing flight that jettisons its bombs before it attacks is a mission kill for the EAF.

When on the offensive, the limited strike capability of the EAF is a hindrance but with experience and the use of decoy tactics, the EAF player will find that they are still able to strike hard against Israeli targets in the Sinai.

The EAF has a defensive triad of their AAA, SAM and MiG force. They should use the strengths and weaknesses of these systems to their benefit. Some examples are setting AAA ambushes along suspected ingress and egress routes and making sure to salvo SAM missiles in enemy flights to increase your chance of hitting the target.

### 31.21 AAA

AAA can be used in three ways: to defend targets, to ambush raids and to shepherd the raid force where you want them to go. Defending a target with flak barrage threatens losses to the raiders and protects against bombing by applying modifiers to air-to-ground attacks.

Setting up hidden AAA along suspected flightpaths can make for some nifty ambush tactics. Lighting up barrage and *Fire Can* as a raid passes overhead can ruin the IAF player's day.

Setting up non-hidden flak can keep the raiders away from places they shouldn't go. The presence of Light flak barrage will cause the IAF player to think twice about trying to fly through it. Use AAA in this fashion to funnel the raid into 'kill zones' where SAMs or MiGs are set up.

The IAF player should use their AAA in the same fashion, although their limited number of AAA points will limit AAA usage to strategic points.

### 31.22 SAMs

SAMs are more fearsome-looking than they really are but they are a hazard especially later in the war when new systems like the HAWK, SA-3 and SA-6 come online. Shootdowns are infrequent, but a bombing flight forced to jettison because of a SAM avoidance maneuver is a mission kill and a good day's work for the SAM crew.

SAMs are best used *en masse*. One or two SAMs on their own are easy pickings for a raid's Egrof force. Four or more SAMs are needed near a target to make life hard for the IAF player. Another consideration is the need to give the MiGs space to operate in. A common rookie error is to spread the SAMs evenly across the defended area. This leaves SAM battalions unsupported against the attacking SEAD flights, while the presence of MiGs prevents the SAMs from firing. Careful planning is needed to deconflict the MiGs and SAMs.

Better practice is to concentrate SAMs in clusters around critical targets, leaving the rest of the airspace to the MiGs. The coast would be the exception, where a picket line of SAMs is advisable. The IAF can use the Mediterranean as an entry and exit point. A picket line can pick off stragglers and aborting flights.

When the enemy launches ARMs at SAM units, don't hesitate: shut the radars down. The SAMs will probably be back on line in two or three game turns. Unless the situation is desperate, it's just not worth the risk, however small, of losing them.

### 31.23 MiGs

The decision about what MiG flights to purchase will depend on the raid and what you want to achieve. The EAF player will have a lot of options on selection of types to use and sometimes it is better to buy more of a cheaper type like the MiG-17 than only getting one flight of IL-28s. Playing shell games with dummy flights is an essential tactic. If the Israeli looks like they've seen through a dummy, take it off the map and regenerate it.

Always remember that air combat automatically causes bombing flights to jettison.

### 31.24 Campaign Tactics

The EAF should manage their MAP pool carefully. It's easy to waste it fighting every raid on the first day or two, only to find there are no more MiGs for the rest of the week. Keep a reserve for the later battles.

If a flight is damaged or its Aggression depleted by morale, try to preserve the aircraft rather than waste MAPs in futile combat. Prudence is the watchword.



## 32. Appendices

### 32.1 Credits

**Lead Design Downtown System:** Lee Brimmicombe-Wood

**Lead Design Elusive Victory:** Terry Simo

**Art Director:** Rodger MacGowan

**Box Art & Package Design:** Rodger MacGowan

**Production Coordination:** Tony Curtis

**Producers:** Tony Curtis, Rodger MacGowan, Andy Lewis, Gene Billingsley and Mark Simonitch

**Map:** Lee Brimmicombe-Wood and Mark Simonitch

**Counters:** Lee Brimmicombe-Wood, Nicolas Eskubi and Mark Simonitch

**Additional Graphics and Charts:** Charles Kibler, Al Cannamore, Torsten Spindler, Chris Perleberg, Philip A. Markgraf, Olivier Dufour and Joy Cohn

**Playtesters:** David Beaver, Rainer Bastian, Gordon Christie, Jean Foisy, Mike Freeze, Randy Nonay, Sander Peeters, Chris Perleberg, Keith Potter, Rob Schoenen, Craig Simms, Torsten Spindler, Arrigo Velicogna

**Blindtesters and Proofreaders:** Hans Korting

### 32.2 Select Bibliography

This is a selection of the reading used in researching the game:

Aloni, Shlomo. *Arab-Israeli Air Wars 1947-82* (Osprey Publishing Limited, 2001). Provides a broad overview of Arab-Israeli Air Wars with a wide assortment of pictures and color plates of aircraft used.

Aloni, Shlomo. *Israeli F-4 Phantom II Aces* (Osprey Publishing Limited, 2004). Nicely detailed book on Israel's use of the F-4 Phantom from 1969-1982.

Aloni, Shlomo. *Israeli Mirage and Nesher Aces* (Osprey Publishing Limited, 2004). Nicely detailed book on Israel's use of the Mirage IIICJ and Nesher.

Bar-Siman-Tov, Yaacov. *The Israeli-Egyptian War of Attrition 1969-1970* (Columbia University Press, 1980). Brings to light the political and military aspects of the War of Attrition and the ramifications of that conflict.

Bregquist, Maj Ronald E. *The Role of Airpower in the Iran-Iraq War* (Air University Press, 1988). Chapter 1 of this book provides a good synopsis of the Arab-Israeli Wars with lessons learned from each conflict.

Boyne, Walter J. *The Two O'Clock War* (Thomas Dunne Books, 2002). An analysis of the role played by the monumental American airlift to support Israel during the 73 War.

Cooling, Benjamin Franklin. *Case Studies in the Achievement of Air Superiority* (Center for Air Force History, 1994). Includes a chapter detailing the Arab-Israeli conflicts.

Dunston, Simon. *The Yom Kippur War 1973 (2) The Sinai* (Osprey Publishing Limited, 2003). Overview of the Yom Kippur War detailing the battle, strategy and tactics used.

Dupuy, Trevor N. *Elusive Victory: The Arab-Israeli Wars: 1947-1974* (Bookspan, 2002). Definitive book on the Arab-Israeli War experience covering all facets; political, land, air, sea and also inspiration for the game title.

Gunston, Bill. *An Illustrated Guide to the Israeli Air Force* (Salamander Books Limited, 1982). As the title implies, an illustrated guide with 78 aircraft types and variants used by the IAF.

Halperin, Merav and Lapidot, Aharon. *G-Suit Combat Reports from Israel's Air War* (Sphere Books Limited, 1990). A series of combat reports for Israeli pilots. An absolutely fascinating but expensive and hard to find paperback. You will want to recreate just about every combat report in this book and most are portrayed in the game. A must have for any collection on Israeli aviation.

Herzog, Chaim. *The Arab-Israeli Wars* (First Vintage Books, 1984). Detailed book on the ground and air wars. A worthy edition that compliments Trevor Dupuy's *Elusive Victory*

Katz, Samuel M. *Israel's Air Force* (Motorbooks International, 1991). Interesting history of Israel's Air Force to include a section on the extensive selection and training program for Israel's pilots.

Meresky, Peter B. *Israeli Fighter Aces: The Definitive History* (Specialty Press Publishers, 1997). A good book with a lot of interviews and personal anecdotes from Israeli pilots and aces.

Nicolle, David and Cooper, Tom. *Arab MiG-19 and MiG-21 Units in Combat* (Osprey Publishing Limited, 2004). One of the few books detailing mostly MiG-21 activities during the Arab-Israeli Wars.

Nordeen, Lon. *Air Warfare in the Missile Age: Second Edition* (Smithsonian Institute, 2002). An excellent book and must have for any air war enthusiast. Book covers all the major

air wars in detail from 1964-2001.

Nordeen, Lon. *Fighters Over Israel* (Orion Books, 1990). A complimentary book to Israeli Fighter Aces by Meresky. Detailed accounts of missions and battle reports.

Nordeen, Lon and Nicolle, David. *Phoenix over the Nile* (Smithsonian Institute, 1996). An excellent book covering the Egyptian point of view and provides a history of Egyptian Air Power from 1932-1994.

Price, Dr. Alfred. *War in the Fourth Dimension* (Greenhill Books, 2001). Book details US electronic warfare, from the Vietnam War to the present. Has a limited section on Israel's use of jamming pods during the 73 War.

Shazly, Saad El. *The Crossing of the Suez* (American Mideast Research, 2003). An insightful look at the Egyptian mindset towards the 73 War detailing the successes and failures of that campaign and the political infighting between the Arabs and Soviets.

Winchester, Jim. *Douglas A-4 Skyhawk* (Pen & Sword Books Ltd, 2005). Detailed book on the A-4 Skyhawk highlighting development and operational users.

In addition to these works, numerous papers, online references and declassified reports have been used.

Support for *Elusive Victory* can be found online at the GMT website: <http://www.gmtgames.com> as well as the Lee Brimicombe-Wood's website:

<http://www.airbattle.co.uk/elusivevictory.html>



## 33. Rules Index

Where there are multiple entries, references in Bold indicate the primary rules section for that entry.

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## *Elusive Victory*

*Today is October 14, 1973 and you are leading a flight of F-4E "Kurnass" Phantoms II into battle.*

It was clear that this was going to be a difficult mission, very difficult. Al Mansurah airfield is in the heart of the Nile Delta, defended by SA-2 and SA-3 missile batteries and a lethal array of AAA. MiGs are also expected in the target area and the prospects of surprise are slim.

You approach the target from over the Mediterranean Sea. As you fly in towards Egypt, you scan the sky constantly in an effort to see signs of MiGs or missiles. At first, your radio is quiet, but a little before you cross the Egyptian coastline the GCI controller warns you, "Heads up. There are MiGs over your target!" "Roger" you answer the controller.

The tension in your formation heightens. You begin your crossing of the Nile Delta at very low altitude, so low that from time to time you have to maneuver to avoid electrical cables that stretch all over the Delta. You'll have to remember that on your way out from the target. With MiGs over the target area, you will have to perform your attack quickly, if you take too much time the SAMs and MiGs will target you and all will be lost.

You arrive over the target. No sight of the MiGs, although you see their drop tanks spinning in the air towards the ground. Time for a hard decision, do you jettison your ordnance and try to fight the MiGs or turn tail to the MiGs and dive on your target. You remember that just three days ago two of your squadron's aircraft were shot down by MiGs over the target. But, you know you are fighting for your country's survival.

You press on towards the target and release your bombs on the airfield runway. Your aircraft leaps through the air after the load of bombs has departed and you break away from the enemy airfield. Your wingman tells you to break right, MiGs on your tail. As you make a hard turn, you spot two smoke trails of air-to-air missiles (Atolls) heading towards you. You turn even harder and the missiles miss but now you are low on energy and fuel is running low.

You decide to head for home. Lowering the nose, your F-4 accelerates rapidly but you remember not to go too low and hit those electrical cables you saw earlier. Again, your wingman calls you to break. You maneuver hard to avoid another attack from the MiGs. This time you see the flash from their guns. You maneuver quickly and are able to get off a quick Sidewinder shot on one of the enemy planes as they pass by your formation. The Sidewinder strikes true and the MiG-21 explodes in a fireball. No time to admire your fifth kill of the war. Your celebration will have to wait as you still need to make it home.

Will you make it home or will your victory become an elusive victory in the skies of the Middle East? The result is up to you!



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