

**RECON**<sup>TM</sup> SUPPLEMENT ONE

\$5.98

# SAYARET<sup>TM</sup>



**& TRACK  
COMMANDER<sup>TM</sup>**

6654

## DESIGNER'S NOTES

SAYARET/TRACK COMMANDER may seem a radical tangent for a game that began as a Vietnam wargame. The primary purpose of introducing this supplement at such an early stage, with still so much material on 'Nam to do, is to indicate that the RECON system is a modern warfare system that will cover almost any current conflict.

The RECON character generation, hand-to-hand, small arms, heavy weapons, artillery, airsupport, and insertion systems contain many of the elements found in any modern conflict. To modify it for these conflicts requires three things: background on the units involved, their equipment, and Contact Tables. Those of you who are serious students of modern warfare may already know the first two and probably can construct your own Contact Tables.

World War II was nearly forty years ago and the state-of-the-art in weaponry has advanced considerably since that time. Also, I personally see no point in rehashing the WW II myths when there have been many valiant men and women involved in wars since that time.

One of the problems inherent in a universal roleplaying system is the lack of adequate background to use the system straight off the rack for your favorite scenario. To write one set of rules (with enough background to make it playable in every war) would cover several thousand pages. RPGs are already expensive enough without paying for what you don't want or need. As an alternative, we are

preparing a set of supplements that will cover the major hot areas since WW II: SWEEP, which will cover conventional search-and-destroy operations in Vietnam; RECCE, the Rhodesian and South African reconnaissance - special operations units; and others which are too tentative to list. In this manner, you can get adequate background and any necessary modifications for only those specific conflicts that interest you.

We will also be publishing modules, such as "The Haiphong HALO" and "Hearts & Minds". Most modules that I have seen were no better than what I have seen every Friday night at the local roleplaying sessions; the difference is only that some player typed up their designs and got them published. At this point, I prefer to publish modules that cover some new material or special point of interest; rather than Marc the Merc Saves the Universe. To this end, modules will contain supplementary material that takes time to research, write, and playtest which will make our output slow.

TRACK COMMANDER was originally intended as a "universal" armor roleplaying game from World War II through near future NATO/Warsaw Pact scenarios. We ran into the same problems mentioned about universal systems; there was too much material to cover adequately. At this point the system covers only Arab-Israeli armored combat; that being the one area in the world today where armor has played such a decisive role. With time, perhaps, we can expand it into other areas.



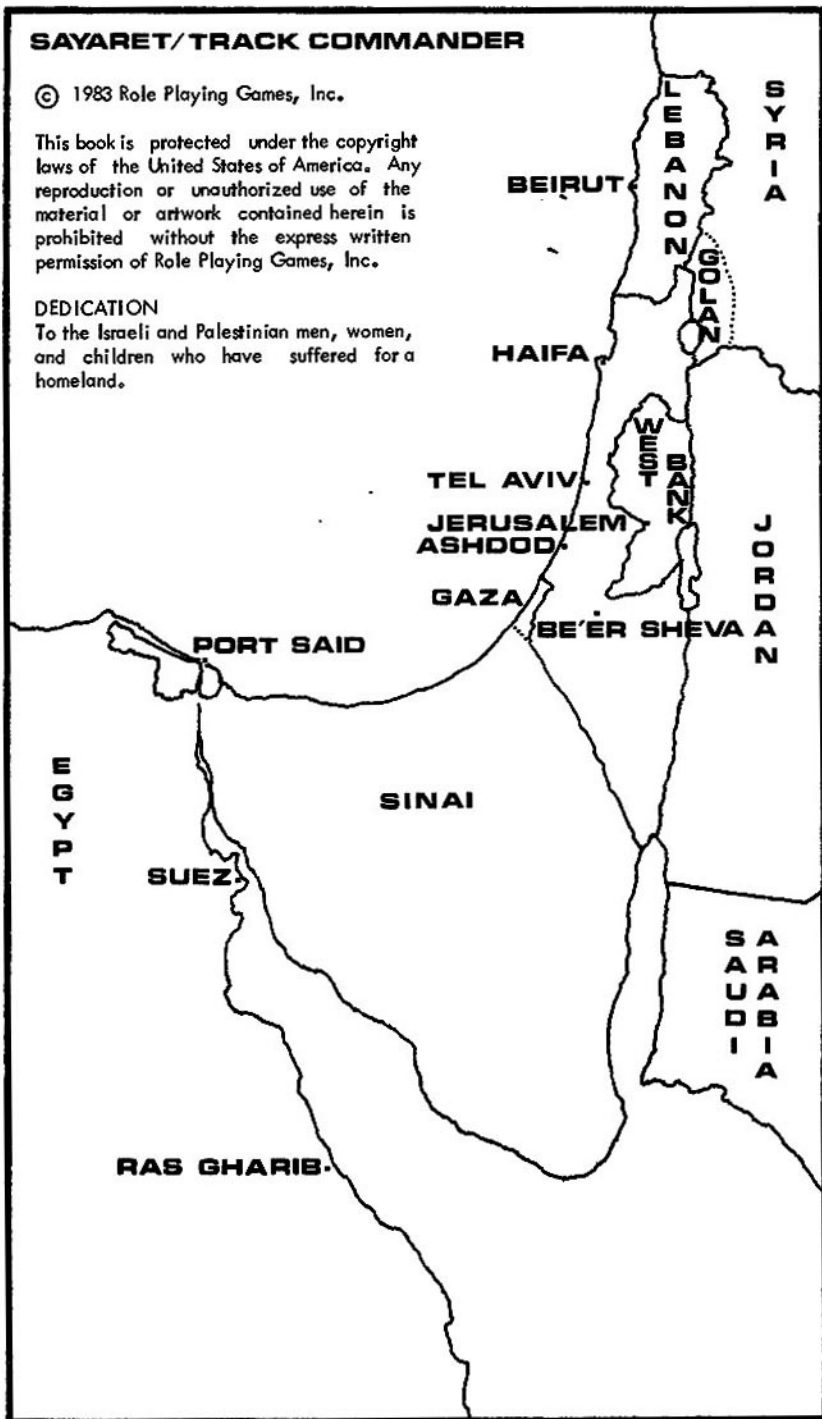
## SAYARET/TRACK COMMANDER

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### DEDICATION

To the Israeli and Palestinian men, women, and children who have suffered for a homeland.



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## INTRODUCTION

Sayaret is Hebrew for Reconnaissance Unit. As in 'Nam this represents those units attached to a unit headquarters and responsible for tactical intelligence of the enemy's strength and disposition, and those units responsible for clandestine operations. Other euphemisms used to camouflage the identity of these special operations units are "paratroopers", "commandos", and "anti-terrorist unit".

Surrounded by hostile neighbors who have attacked in four major wars and numerous smaller engagements, it is essential that the Israeli Defense Forces restrict information concerning unit identifications, strength, and disposition. This applies not only to the smaller special units, but to the composition of larger units on any front during and after a war. By denying the enemy this information, he is unable to effectively assess the strength of the IDF and its ability to move units from one front to another. This mania for secrecy can reach almost paranoid dimensions (it is illegal to discuss Sayaret Matkal in the Israeli press.) It has been difficult to obtain the following information and any inaccuracies are a result of intentional "smoke" by the IDF or inaccuracies (intentional or otherwise) in source materials. (One Arab source discussed a "2,000 man commando force composed of tanks, paratroopers, and artillery" in a reprisal raid into southern Lebanon.) Considering the manpower of the IDF, there are hardly 2,000 men in all of the following units.

## TACTICAL RECON

As stated previously, each combat HQ has an attached reconnaissance unit. Most of these units are concerned with battlefield or tactical intelligence in "hot" situations. Between wars (in what passes for peace in the Middle East) these units may be involved in border security operations: ambushes along cross-border trails that guerrilla infiltrators may use, "mirdafim" (tracking down infiltrators who have crossed the borders into Israel or the Occupied Territories), or reprisal raids into Arab territories against guerrilla headquarters, training, or staging areas. These raids will generally consist of large elements of conventional units, rather than recon units only.

Two tactical recon units of particular note are Sayaret Golani (the recon unit of the 1st Infantry Brigade or Golani Brigade) and Sayaret Zanhanim (the recon unit of the 202d Airborne Brigade, also called the "Haruv"

recon unit). The Golani and the airborne brigades (including reserve units) are elite, spearheader/assault units with high levels of training and esprit de corps throughout. Their use in numerous cross-border reprisal raids has led them to be called "commando" units in press releases, which only further confuses the issue.

The most noted Israeli special operations unit is the second battalion of the two hundred and second airborne brigade. This is about the only special operations unit for which there is any reasonably complete unit history available in open sources.

The Israeli army has not always been as efficient as their string of successes in recent years would indicate. Morale was particularly low in the early 50s as the army began to take shape. Arab terrorists infiltrated at will and Israeli reprisal raids were frustratingly unsuccessful. To bottle the rising wave of terrorism a new type of unit was formed. The men were guerrilla fighters who were familiar with the use of stealth, night raids, and fairly ruthless. These were the men that Ariel "Arik" Sharon selected for the new anti-terrorist unit, Unit 101 in August of 1953.

Not only was Unit 101 the prototype of all future Israeli elite units, but it was the cornerstone for the IDF's "Follow Me" form of personal leadership and aggressive combat.

Unit 101, as such, only lasted for a few months, but racked up a long list of successful anti-terrorist ops. After an overly aggressive raid in which the villagers were not cleared out of their houses before they were leveled, Unit 101 was combined with the 890th (Independent) Airborne Battalion. The new composite unit was the 202d Airborne Battalion which eventually grew to brigade size.

The aggressive spirit of 101 was instilled into the men of the 202d. They were so successful that young paratroop officers were assigned to other units to sow this spirit throughout Zahal. (Older officers were encouraged to become airborne qualified as a means of exposing them to this.)

Today, the 2d Battalion of the 202d Airborne Brigade is utilized on large scale reprisal raids or as shock troops in assaults. The men of this battalion (and its sister unit in the 1st Infantry "Golani" Brigade are the "commandos" of many newspaper articles.

There is a cross-fertilization of sorts with men from the 202d and 1st being seconded to serve in Sayaret Matkal, and after their tour returning to their parent unit. In this manner there is a much larger pool or reserve of experienced personnel on tap for special ops.

## SAYARET MATKAL

Stationed near Be'er Sheva in the middle of Israel is the elite Israeli "reconnaissance" unit, Sayaret Matkal, the General Staff Reconnaissance Unit. For security reasons, it is illegal to mention this unit in the Israeli press, and many of its accomplishments are attributed to "paratroopers". In the deluge of books following the successful rescue of the airline hostages at Entebbe (3-4 July 1976) some sources listed the rescuers as men of various airborne units and the Golani brigade. The two units involved were Sayaret Matkal and Unit 269.

Due to the dense cloud of smoke to obscure this unit and its accomplishments, what little is known about it is often ambiguous and confusing. Some sources refer to it as "the Special Air and Commando Service", the "Special Air Service" (after the excellent British unit); to bypass all of this official hooplah, this unit is known simply as "The Unit" (Ha Yehida) and its members as "The Guys" (Ha Hevreh).

Unit strength is approximately 200 men, all of whom are airborne qualified and are run through periodic amphibious training. As with most Israeli airborne units, choppers are used for infiltration (insertion) and for extraction. (At this time there is no Israeli aircrew unit; so, paratroopers serve in a dual function.)

Although centered in Be'er Sheva, training exercises may take them all over Israel and into neighboring Arab countries. Actual ops are used for training exercises, particularly border security/mirdafim situations.

The Unit was organized after the 1967 Six Day War to provide a unit specifically for special operations. Its first action was on 31 October 1968 (Happy Halloween) when it was inserted by chopper on a deep penetration raid into Egypt. The Naj Mohammadi power relay station and two bridges were blown to emphasize the vulnerability of Egypt and force deescalation of hostilities.

The next op was 28 December 1968, when 40 members of Sayaret Matkal under the General Officer Commanding Paratroops and Infantry, Brigadier General Rafael Eytan, landed by chopper from ships at sea and secured Beirut airport. They then destroyed 13 commercial aircraft belonging to Arab countries that had aided PLO air hijackers, who were harassing Israel at that time. The whole operation was carried off without any civilian casualties or damaging any neutral aircraft.

On 9 September 1969 PT boats and landing

craft delivered a team to El Khafayev a small town some 25 miles south of the town of Suez on the Gulf of Suez. This team consisted of men from The Unit, 6 captured T-54/55 tanks, and 3 Soviet APCs. The guys then moved south along the coastal road for 10 hours, during which time they destroyed three radar installations, killed 150 Egyptian soldiers, and captured two newly arrived T-62 tanks, which were embarked on the landing craft and taken to Israel for inspection. This op has since become known as "The 10 Hour War."

Later in '72 the guys inserted into southern Lebanon and captured two Syrian generals to exchange them for captured Israeli pilots.

On May 15 1974 three mechablaim of the PDFLP seized a school, four teachers, and 100 students. After negotiations (with the usual exorbitant terrorist demands) fell through, the unit was authorized to assault the school, but by that time it was too late, the terrorists were alert and managed to kill 23 children and wound 60 more before they were finally eliminated.

The most spectacular of the "spectaculars" is, of course, the Entebbe rescue of 3-4 July 1976. Four C-130 Hercules ("Hippos" in the Israeli Air Force parlance) carried men of Unit 269 to take out the terrorists holding the hostages and a force of the guys as a security cover against Ugandan troops, two jeeps with 106mm recoilless rifles, an M-3 halftrack, a Mercedes limousine to look like Idi Amin's personal car as a ruse, and sufficient fuel in one plane for the return flight. Although some sources list the team as 280, the actual number was half that including medical personnel and intelligence specialists assigned to remove the airport's new Soviet radar. In all 103 hostages were freed, numerous Mi G aircraft supplied to the Ugandan air force were destroyed, seven terrorists were eliminated, and three were captured. Overall ground command on this operation was again by the General Officer Commanding Paratroops and Infantry, at that time, Brigadier General Dan Shomron.

At the Beirut airport 28 December 1968 and, again, at the Entebbe airport 4 July 1976 command of The Unit was under the General Officer Commanding Paratroops and Infantry (sometimes translated as Chief Infantry and Paratroop Officer). This points out the high level at which these operations function. There is a very abbreviated chain of command between the politicians who approve these ops and the men who carry them out.

#### UNIT 269

Unit 269, generally referred to as an "anti-terrorist unit" without specifically naming it, is targeted with eliminating terrorists in hostage situations. These are the men who are specialists with the silenced .22 Beretta and the long range sniper rifle. Following the 1972 slaughter of Israeli athletes at the Munich Olympic Games, it was members of Unit 269 who comprised the Israeli "hit teams" who tracked down terrorists throughout Europe. Although not a normal part of "the Institute" (Mossad), they were loaned out for this function. Mossad fingered the targets, and Unit 269 eliminated them.

Total manpower of Unit 269 is approximately 50 men and women. There are some times when a man cannot approach a target as easily as a woman, and Israeli women have always assumed an active role in the defense of their country. Personnel for 269 are selected differently from most other units, in that combat veterans are drawn from other units rather than direct recruitment from the Kelet, as in almost all other IDF units. Dispassionately eliminating an opponent, no matter how extenuating the circumstances, requires troops that have faced the necessity for taking human life, and even the best psychological tests today cannot predict who will make a good member of 269.

Unit 269 is a direct result of the airline hijackings and expanded terrorism that threatened to isolate Israel between the Six Day War and the Yom Kippur War.

Unit 269 uses some of the training systems established by the Mossad ("Institute" from Central Institute for Intelligence and Special Operations). This includes special speed reading courses for rapid recognition of terrorist suspects in a hostage situation and a special building where simulations require the trainee to identify and eliminate the terrorist upon entering a room without injuring the hostages. This system has been adopted by the British SAS Counter Revolutionary Warfare (anti-terrorist) group, the new U.S. Special Forces Operational Detachment - Delta (the new U.S. anti-terrorist group), and GSG-9, the West German anti-terrorist group. Unit 269 is based within 30 miles of Nir Zvi.

On 8 May 1972 Sabena flight 517 from Brussels to Tel Aviv was taken over by two men and two women belonging to Black September. After landing at Lod airport in Israel, negotiations were undertaken to rescue the 90 passengers and 10 crew members. While negotiations continued, members of 269 practiced an assault on a similar Boeing 707 in a hanger nearby. After split second timing was arranged, the men made their way towards the aircraft disguised as mechanics to reinflate the airplanes tires so it could be flown off. They, then stormed the airplane and eliminated the two male hijackers and captured the two female terrorists.

The next major op to surface was on 9-10 April 1973 when 30 members of 269 made their way to Beirut aboard fast patrol boats and then inserted by Zodiac inflatable boats with outboards (paddling the last quarter mile). On the beach they met the Mossad advance team who drove each five man team to its terrorist target. When the teams were finally extracted, they had eliminated Abu Youssef (Fatah's Chief of Intelligence), Kamal Adwan (responsible for operations in Israel and Israeli-occupied territory), and Kamal Nasser, as well as capturing numerous terrorist documents, and destroying several terrorist organization headquarters in what had previously been a sanctuary.

On the Entebbe rescue mission, it was the men of 269 who were targeted with eliminating the terrorists before they could harm the hostages, which they handled admirably considering the inherent difficulties of identifying the terrorists among so many innocent bystanders.

The one Israeli team member who was killed on Operation Thunderbolt at Entebbe was Lieut. Col. Yehonatan Netanyahu, who had served in the airborne Haruv recon unit, Sayaret Matkal, and Unit 269. He remains the epitome of the Israeli recon.

#### NAVAL INFANTRY COMMANDOS

Hel Yam, the Israeli Sea Corps, has units stationed at Ashdod and Haifa. Among the men who man Israel's missile ships, subs, PT boats/swift boats, and older destroyers is a unit, the Naval Infantry Commandos, who combine the abilities of the U.S. Marines for amphibious invasions and the U.S. Navy SEALs/UDT for SCUBA, sabotage, and beach reconnaissance.

Currently there are between 300 to 500 men assigned to this unit. Most are primarily

raiders for amphibious ops, but a small select unit consists of "frogmen" trained in SCUBA, demolitions, airborne qualified including HALO for some, and the typical hand-to-hand and small arms skills one would associate with a unit of this type.

Due to the close range inherent in assault combat, the Naval Commandos and swimmers still prefer the Uzi SMG. Units did have access to the Galil (5.56mm assault rifle) as of 1973, just prior to the outbreak of the Yom Kippur War; elite units were the first equipped with the Galil. Range, however, is not as essential to the Naval Commandos as rate of fire and magazine capacity. They also carry the FN MAG (7.62mm MG) for volume in larger operations.

Although Israel used divers against British ships in the '48 War of Independence, it was not until the Six Day War of 1967 that this unit surfaced. During the 1967 Six Day War swimmers damaged Egyptian ships in Port Said and Alexandria.

On 28 July 1969 swimmers scaled the outer perimeter wall of Green Island in the Gulf of Suez as part of the raid on an Egyptian radar site that deterred Israeli aircraft from end runs up from the South. Guarding this installation was an elite Egyptian unit of commandos, which Naval Commandos took out.

On 9 September 1969 Israeli swimmers sank two Egyptian PT boats at Ras Sadat prior to "The 10 Hour War" (SEE Sayaret Matkal for details). This prevented the PT boats from overtaking the slower Israeli landingcraft necessary to transport the tanks and APCs.

On 26 September Naval Commandos transported by PT boats attacked Ras Gharib and dismantled a new P-12 radar unit which was lifted out by a CH-53 helicopter while the assault force withdrew by PT boat.

During the 1973 Yom Kippur War, Israeli swimmers were transported by PT boat to Port Said (again) where they sank a tank landing craft, a missile boat, and several PT boats. Six were captured by Egyptian units and were to be part of the exchange for nearly 5,000 Egyptian POWs held by the IDF.

During Operation Peace in Galilee in 1982, Naval Commandos became a blocking force along the coastal road to prevent retreating PLO units from southern Lebanon withdrawing to Beirut.

In several of the above incidents, the Naval Commandos were described as "paratroopers" as smoke to cover the existence of this unit.

## ZAHAL

The Zug Ha-Haganah Le-Israel, or Israeli Defense Forces, is composed of three very closely linked branches. Hel Yam, the Sea Corps, is small in both number of men and in the dimensions of the ships used; however, it has grown in importance in defending the coast of Israel and Occupied Territories of the Sinai and in carrying the war to the enemy. The Israeli Air Force is composed of fighters and fighter-bombers which function in a tactical air support role as aerial artillery; using the most sophisticated jet aircraft available on the world market today, the IAF has maintained aerial superiority in the crucial battle to protect Israel. The Israeli Army is the test laboratory for Western military technology, where NATO equipment is tested against current Soviet equipment.

The Israeli Army is composed of nearly every able bodied man between 18 and 55. It is ironic in this age in the West where more and more young men shirk their obligation to their country, to find an army based on universal conscription. In America too many young men whine over conscription as an infringement on their rights, when for the most part they face only a couple of years inconvenience; whereas their Israeli counterpart faces the real potential of combat on a daily basis. The difference is that the Sabra knows that should Zahal ever fail, he and all he loves will be erased from the Earth in a Holocaust more absolute than that of World War II.

The large base provided by massive training allows Israel to maintain a reserve (Sherut Miliim) that can be mobilized within three days to meet the threat. The regular service (Sherut Sadir) is composed of the permanent service (Sherut Qevah) career personnel and the conscript service (Sherut Hovah), who will either continue in the military as a career or eventually end in one of the reserve units.

The function of the regular service is to serve as a training cadre and as the first line of defense. Representing only 30% of Israel's military strength, the regular service cannot singlehandedly defend the nation, but must rely on reinforcement by reserve units. This is essentially true of all armies; however, in the IDF the reaction time is phenomenal.

## ISRAELI RANK

(U.S. equivalent and unit commanded)

Rav Aluf

(Lt. General, General of the Army)

Aluf

(Major General, Ugdah)

Tat Aluf

(Brigadier General, Ugdah)

Aluf Mishneh

(Colonel, Hativa/Brigade)

Sgan Aluf

(Lt. Col., Gdud/Battalion)

Rav Seren

(Major)

Seren

(Captain, Plugah/Company)

Segen

(1st Lieutenant)

Segen Mishneh

(2nd Lt., Machlakah/Platoon)

Rav Samal Bachir

(Sergeant Major)

Rav Samal Rishon Yekhidati

(Master Sergeant)

Rav Samal Rishon

Rav Samal Yekhidati

(Sergeant First Class)

Rav Samal

Samal Rishon

(Staff Sergeant)

Samal

(Sergeant)

Rav Turai Rishon

Rav Turai

(Corporal, Squad)

Turai Rishon

(Private First Class)

Turai

(Private)

GOLD ON DARK GREEN

ON GREY SHOULDER BOARDS



WHITE &amp; GOLD ON O.D.



Israeli security measures again make it difficult to estimate the number of military ground units, but an educated guess would have Sherut Sadir consisting of at least: two armored brigades, one airborne brigade, and four infantry and mechanized infantry brigades. Sherut Milium can provide an additional 18 armored brigades, 7 infantry, 7 mechanized infantry, and four more airborne brigades. A brigade averages about 4,000 men, and in addition to the regular service units there will also be units of the reserve undergoing their annual training at any given time. During a full mobilization the IDF can present 3,000 tanks; 3,600 armored personnel carriers, etc., and 90,000 ground troops. When this happens however, the economy of Israel grinds to a halt as most of its available manpower is absorbed into Zahal; Israel cannot afford to fight long protracted wars. Outnumbered nearly 70 to 1 in population by its Arab neighbors, the IDF must fight quick, decisive battles to prevent being overwhelmed, bled dry, or financially bankrupted.

The IDF is based on a triangular structure, of three units per larger unit: three squads (Kitah) of 8-12 men per platoon; three platoons (Machlakah) per company; three companies (Plugah) per battalion; and three battalions (Gdud) per brigade. The next level or Ugdah is composed of a variable number of units depending on the mission and availability of troops.

## TRAINING

Upon graduation from high school or upon immigration into Israel, the citizen is expected to complete his basic tour of duty in Zahal. This will begin by reporting to a local induction center from which he or she is transported to the Kelet. In contrast to the American system, the Kelet is more of a holding company where the new inductees are examined and tested. (Zahal places a heavy emphasis on psychological testing for various programs - especially pilots, officers, and members of clandestine organizations.)

From the Kelet, the Turai ("private") is moved to the training camp of his parent unit. Here he will undergo basic training with men, not only as part of his future organization, but with men of his actual squad. Whole units are trained at a time with Rav Turai (Corporals) serving as drill instructors for the men who will serve in their squad. (With the small career cadre, there is a tremendous turnover in units on a regular basis, and units as a whole are, therefore, trained together.)

Basic is basic, throughout the world, only the language is changed. As the "tironim" goes through basic, he encounters the near universal "drubbing" or physical exercises (pushups, pushups, and more pushups), the harassment of non-coms ("fitur"), extended marches, and weapons training.

Marches are particularly important to the conditioning of the future "fighterim"; they serve, not only, to get him into top physical condition, but with the small size of Israel, they help to familiarize him with the terrain of various parts of the country, "getting acquainted with the borders". Marches are done at 4-4 1/2 miles per hour and may build up to an 80 mile march cross-country in 24 hours.

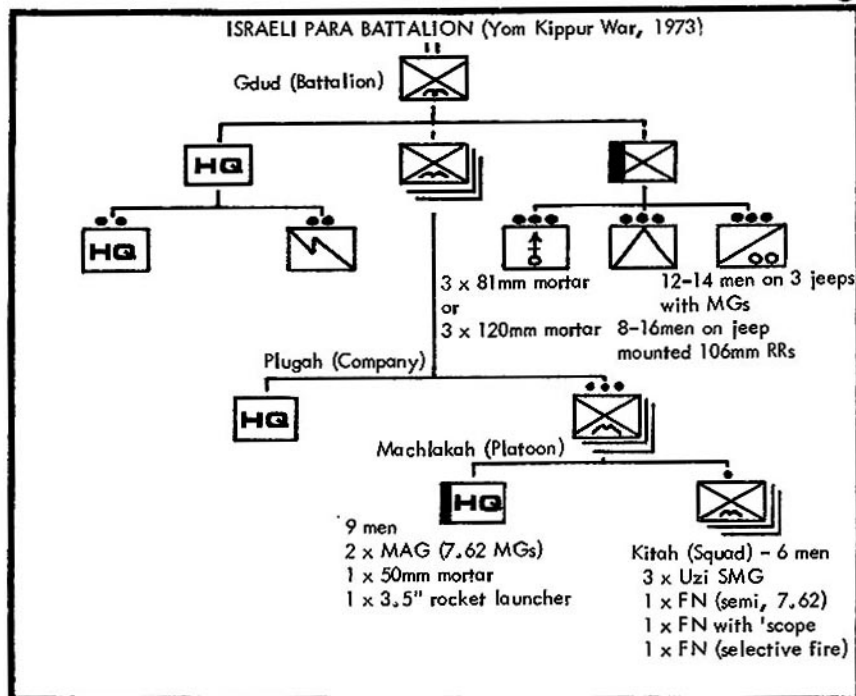
A man doesn't know his abilities until they have been put to the test. Eight mile stretcher marches carrying a "wounded" squadmate is not only trying, but ties in with one of the unwritten rules of Zahal. The IDF does everything humanly possible to recover its prisoners, wounded, and even its dead. The desert war can be particularly barbaric with Israeli prisoners tortured or executed by their captors. It is not unusual for the IDF to risk a larger force to rescue a single man or smaller unit. Zahal takes care of its own.

During this training, the tironim becomes attached to his weapon in more ways than one. Zahal may not put much emphasis on spit and polish paradeground performance or military etiquette, but woe to the man whose weapon contains a speck of dirt (or, shudder, rust). Marches are performed with the weapon carried at the ready, slings are not issued during basic. Look through photos of the IDF for a weapon slung over the shoulder, it may be slung near at hand, but it is rare to see one slung just for marching. The tironim will eat, sleep, and exercise with his weapon. (The only reason he doesn't shower with it is for the weapon's convenience not his own.)

Sleep, what little there is, is done in pup tents/shelter halves. Tironim are not housed in great bamlike barracks, they train under field conditions. Heat, cold (yes, it gets cold in the Middle East), rain (yes, sometimes for weeks), sandstorms and whatever else the Chief Rabbi can summon up to make the tironim's basic training more memorable, all are endured in the splendor of a two man tent. Three months under a canvas roof can work wonders on a man's disposition.

During these three months, firing exercises with a wide variety of rifles, Uzis, machine guns, bazookas, anti-tank weapons, and





mortars fill the idle hours. Israel places much more emphasis on live fire "quickkill" instinctive shooting exercises than on range firing. The IDF philosophy of aggressive combat with high volume fire to suppress and destroy the enemy is built into the training at the earliest stages.

During individual combat training the squad storms hills, practice infiltration, fire at hidden targets while moving in squad-sized units, and practice house-to-house combat. Live grenades are used in this training, and while the risk is there, the close supervision of the ever present Rav Turai keeps casualties to a minimum.

After basic, the potential recon will move to "Via Dolorosa" (nickname for the School for Parachuting and Light Warfare). Two weeks will be spent going through the usual ground exercises -- jumping from training towers, practicing PLFs (Parachute Landing Falls), lectures on malfunctions, and the proper way to enter and exit mockups of different aircraft (including choppers).

The third, and final, week consists of 7 jumps: the first two without weapons and personal gear, the next with full gear, two water landings, and two night jumps. After the final night jump the men make an extended

march with full gear at the end of which there is a ceremony where they are presented their beret and jump wings of the Zenchanim or paratrooper.

Training doesn't end here. There are still familiarization exercises with tanks and APCs (M-113s or the older M-3 halftrack), weapon training with Arab weapons, and amphibious maneuvers from landing craft, PT boats, and Zodiac inflatable boats.

Throughout all of this, the unit is still continuing marches to familiarize the men with the varied terrain of their country. Land navigation is essential to a unit that may be operating behind the enemy's lines, and it is practiced again, and again, and again.

Between "spectaculars", or major ops, the unit may be involved in search and cordon operations in the Occupied Territories of the Sinai or West Bank, border security ops which may lead to "mirdafim" ("chasings" or tracking down terrorists, "mechablim" or "fatachniks" that have crossed the border and left spoor of their trail), and ambushes along trails, roads, or river fords that might be used by mechablim.

By the end of his first year of service, the new "fighterim" may be a Rav Turai (corporal) and sent back as a drill instructor.



## LEADERSHIP

Zahal has developed an impressive record for defending Israel in a rather uneven test of resources. Outnumbered nearly 70 to one by their Arab neighbors, fighting against the resources of several OPEC backed armies, and fighting against opponents supplied with ever more sophisticated Soviet weaponry, the Israeli struggle for survival has rested on leadership up and down the chain of command.

With each successive war, the Arab troops have shown greater command of their sophisticated weaponry, and will to fight. Yet, in each, the turning point has been leadership. Built on the Soviet model of absolute authority trickling down from above, the Egyptian and Syrian armies have lacked the flexibility their small unit commanders need to secure victory.

The Israeli army is almost a mirror image in leadership philosophy. Zahal selects and encourages aggressive, intuitive, flexible, and dynamic young men. These men are not commanders, they are leaders. They are the first into battle, and the last out.

In one of the earliest battles of the fledgling army, a unit was about to be overrun. A rear guard action was essential, but it was a certainty that the unit remaining would be wiped out. The officer and non-coms stayed behind to cover the withdrawal of the enlisted men!

The cost has been high in promising young men, but without the personal sacrifice and inspiration of such men, Israel might not have survived.

The IDF does not accept the "shake and bake" philosophy of cranking out officers from college courses or service academies. All of its officers and non-coms are selected for their courses after basic and time in their unit. They don't make the officer a soldier, they make the soldier an officer.

The motto of the Israeli officer course, like its American counterpart, is "Follow Me".

To the outsider, the lack of spit and polish uniforms, parade ground drilling, and the informality of the men towards their officers (such as calling them by their first name or nickname) seems unthinkable. The philosophy of Zahal is the time wasted on polishing brass or learning precision marching is time taken away from combat training. The informal attitude towards officers is not disrespectful, you might not respect a man you have to say "sir" to and salute, but you will respect a man who will always be leading, not just commanding.

## OPPOSING FORCES

Although the forces of almost any Moslem country may be involved during war against Israel, the primary opponents throughout the thirty-five years of modern Israel have been Egypt, Syria, and the Palestinian terrorist groups.

In many ways the armies of Egypt and Syria are hardly distinguishable from their patron the Soviet Union. Armor, aircraft, artillery, small arms, anti-aircraft, anti-tank, and training all are imported from the USSR.

Against these opponents it is a conventional war. Egyptian commandos may insert by chopper behind your lines to wreak havoc, and Egyptian incursors ("frogmen") may cross the Suez Canal to probe the Bar-Lev line, but by and large this is tank and infantry warfare straight from the book.

Information is given covering Soviet small arms, anti-tank weapons, and armor that will cover actions against conventional Arab forces.

Less predictable are the various Palestinian terrorist organizations. The distinction is made between guerrillas and terrorists due to the failure of the various organizations to adequately follow the various communist guerrilla models in attempting to produce an indigenous guerrilla movement within Israel or the Occupied Territories of Gaza, Sinai, or the West Bank of the Jordan River. Had they followed this mode, they would have become a more serious threat.

Instead, they chose to follow a course to achieve as much publicity for the plight of their people with sensational acts of terrorism against civilian targets. It seems incredible that they failed to foresee the consequences of such actions. Instead of winning support for their cause, they only drove away any potential supporters through indiscriminate acts of terrorism.

Forced from their homeland when the new state of Israel was proclaimed from part and later all of their nation of Palestine, it is hard to deny that the Palestinians have a legitimate claim. Peace will only come when the Israelis recognize the Palestinian's right to a homeland, and the Palestinians and their Arab allies recognize Israel's right as well. As long as neither side is willing to compromise on territorial demands there will be war and rumor of war in the Middle East.

The most commonly known Palestinian organization is the P. L. O. (Palestine Liberation Organization) which was formed in 1964. This has come to be as close to a central spokesman as the various factions will allow.

In their heyday there were over 20 groups vying for publicity in the world press, recruits from Palestinian refugee camps throughout the Middle East, and arms and finances from either Egypt or Syria (which supported rival groups for their own national interests). The confusion of covering all would be overwhelming: PFLP, DPF, PLA, AOLP, ALF, APO, FPPS, AMLP, and many more have been created. Plus the ins and outs of their histories is mindboggling: Yasir Mohammed Arafat is one of the founders of Al Fatah, or Tahir al Hatani al Falestini, the Movement for the National Liberation of Palestine, which was a rival to the Egyptian backed PLO. Subsequently, Arafat maneuvered to

take over the PLO.

Many of these organizations carried on cross-border raids by a few dedicated men armed with AKs, RPGs, grenades, and mines. Raids have come primarily from Syria, Gaza, and Lebanon. The continued use of southern Lebanon as a sanctuary for the launching of 122mm Katyushin rockets against Israeli kibbutzim has led to the series of IDF incursions and supplies and training to Christian Lebanese para-military organizations in this region.

The most unpredictable group is Black September (named after the ousting of troublesome Palestinian groups from Jordan by King Hussein in September, 1970). This is the group responsible for most of the aircraft hijackings, letter bombs, the Lod airport massacre, the Munich Olympic Games massacre of Israeli athletes, and the Entebbe hijacking.

## CONVENTIONAL



## FEDAYEEN



## Section II: Mechanics



### CHARACTER GENERATION

Normal character generation for Strength, Agility, and Alertness is rolled on 2d100.

For special operations, such as ops for Mossad to track down terrorists in Europe, it is possible to run a female PC. Normal St, Ag, and Al are rolled.

HEIGHT: 4'10" + 1d10"

WEIGHT: 90 + 3d10 pounds

AGE: 18 + 1d10 years

Names for either male or female PCs and NPCs are available on random 1d20 tables. These tables cover both Israeli and Arabic names for males and females. Any names of famous people is a matter of coincidence on a random generation table.

Players are, of course, free to select or make up their own character names.

As a nation of immigrants, many of the Israelis speak several languages. All PCs will be assumed to be speaking Hebrew, the national language of Israel. On a roll of 1d10/2 (1-5, rounding up) the PC will know this many additional languages.

To determine which languages, roll 1d10 on the Language Table. If one language is rolled twice, the character will speak that language with the fluency of a native (no detectable accent); otherwise, he/she will have to roll for proficiency on 2d100.

The inclusion of several European languages may be useful for detached duty or anti-terrorist operations in Europe. "Scandinavian" is a generic language which assumes the character is familiar with Swedish, Norwegian, Finnish rather than requiring specific language skills which might be only marginally useful in this game. French can be useful as a cover for deep penetration in French Morocco.

Proficiency is high, and allows all PCs with a language to understand and speak fluently; however, the majority will have a detectable accent that would betray them as not being a native of the country.

Most RECON skills remain useful (except Jungle Survival). There are five new heavy weapons skills: Surface-to-Air Missile (SAM), TOW, Dragon, Sagger, and 106mm recoilless rifle skills. The Grenade Launcher skill is replaced by the Rifle Grenade skill (using the built-in launcher on the new Galil assault rifle).

MISSIONS:

Numerous ideas for Israeli missions have already been given in the individual sections on the various recon units. The following suggestions rehash some of those ideas and add a few more to help you get started.

CROSS-BORDER REPRISAL RAIDS

High ranking terrorist leadership will be meeting at the headquarters at Khanaz Zabib, encircle and capture. They will be heavily guarded.

The supply dump at Qasr al Hammam has recently received supplies of SAM-7 anti-aircraft missiles. Destroy or capture.

An Israeli pilot has been captured and is being held prisoner for a planned news conference tomorrow. Release him.

A terrorist hit team is waiting to cross the border at the village of As Suwaqah. This is the same team that hit the schoolbus at Kibbutz Meiron three days ago.

A friendly Arab mayor in the village of Ma'daba in the Occupied Territories is to be eliminated by a team of terrorists as an example. Take out the terrorists.

A Shin Beth (counter-intelligence) agent has been unmasked in the village of Ar Rabbah and is to be hanged tomorrow.

A Katyusha rocket launcher truck has been located in the valley, Wadi Rajib. The high ridges make it impossible to eliminate by aircraft. Insert and destroy.

The training base at Dayr Ali is about to go operational. High ranking terrorist leaders will be present for the opening ceremonies, and there will be numerous instructors, supplies, and recruits.

A recruiting team will be entering the refugee camp at Kufayr Yabus, eliminate them without harming the refugees ("Purity of Arms" doctrine forbids injuring innocent civilians).

The village of Sa'sa is hiding a terrorist team that is responsible for mining the road to Yesud Hama'ala and causing civilian casualties. Eliminate the terrorists, evacuate the civilians, and destroy the buildings.

Snatch the notorious terrorist leader, Doctor Hafez Jaloud, who will be traveling with his bodyguards in his Mercedes to the training base at Nawa.

OPS AGAINST CONVENTIONAL UNITS

The following cross-border ops will be against heavily armed conventional army units of a neighboring Arab country.

Snatch General Sadoon Gohar to exchange him for a captured frogman. Intel reports he will be inspecting the artillery battery at Tasil.

Large amounts of diesel fuel in 55 gallon drums is being stored at Na'ran to refuel tanks in preparation for an armored attack.

Recently delivered T-80 tanks are at a tank park at Harasta for training their new crews. Destroy the tanks with explosives and remove one of the new laser sights.

SAM-6 missiles deployed on modified PT-76 launchers are being moved into the Namir valley. Destroy the launch vehicles (can use explosives, jeeps with TOWs, or tanks).

The latest Soviet radar unit has been deployed at Tafas. It is heavily defended by ground and anti-aircraft units. Insert and destroy the anti-aircraft defenses so that a chopper can be used to extract the unit for study.

Take a jeep mounted anti-tank unit to slow the advance of invading armor.

Counter-attack the heavily defended heights of Mount Shihab (trenches, pillboxes, etc.). TACAIR will be available.

SPECTACULARS

The Terrorist Negotiation Table (TNT) will allow you to build tension as the team plans and prepares for an assault if the negotiations should fail.

Terrorists have taken a foreign diplomat hostage (along with hotel staff and other guests) at the Ben-Gurion Hotel.

Terrorists have hijacked an aircraft and are holding the passengers hostage aboard the plane at the small airport of Kafr Sawm.

Terrorists have taken the freighter "Song of Galilee" and are holding it in the Haifa harbor and threatening to blow up the ship, crew, and passengers unless certain terrorists are released from Israeli prisons.

High ranking terrorist leaders are meeting in Beirut to plot policy for future operations against Israel. Snatch or eliminate.

An Arab nuclear reactor at Beit Lahya is producing plutonium for nuclear weapons, it is carefully defended from air attack (this time) so an infantry op is essential to delay them.

A new surface-to-surface missile has been prepared and is undergoing testing at Beit Rashid. Destroy the facilities (and snatch a missile for study).

Soviet chemical weapons are being supplied to the airbase at Ashtaroth for use against reinforcing Israeli units in the Mitla Pass. These stockpiles must be destroyed with timed explosives to avoid contamination of the team.

## COMBINED OPERATIONS TABLE

Roleplaying is normally limited to a squad-sized operation; while this is acceptable in games which make no attempt to simulate real situations, it reduces a wargame to the level of a comicbook adventure where one squad fights a war singlehandedly. To compensate for the large number of NPCs that may be necessary for an op (whether other squads, tracks, or anti-tank units, etc.) involved there is the Combined Operations Table.

This table will allow the MD to roll periodically and determine how well the other units are keeping up with the timetable for the operation or how well they are doing in combat.

To use this system, the players must plan the operation. They will decide how many extra units are involved, what their routes will be to their objectives, what their objective will be, and how critical timing will be to the success of the operation. Using the players proposed timetable, the MD can roll 1d20 for EACH unit to determine how well it is keeping up with its schedule.

The amount of DELAY depends on whether seconds, minutes, or hours are critical to the coordination of the operation. A unit can make up lost time on rolls of "Advancing ahead of schedule" (which will offset one roll of "Delayed"). Several delay rolls will put the unit further and further behind on its op plan.

WITHOUT COMMUNICATIONS BETWEEN units - either radios, runners, or visual sightings - the PCs may be unaware of how the other units are doing.

The RISK OF ALERTING ENEMY UNITS in the area increases 2% for each four man unit involved in the operation (except for the PCs where normal AI rolls will determine). The risk for each vehicle increases the total 4%. Each time the status of all units is checked by the MD, he will roll once on 2d100 to determine if any unit has accidentally alerted the enemy. (A roll on 2d100 below or equal to the total risk indicates possible alert; roll 1d10 on REACTION TABLE to determine the enemy's response.) To determine which unit tripped up (how close to the PCs), you can number each unit and roll 1d10.

If the enemy opens fire, all units within hearing will be alert and edgy. They may orient towards that unit expecting an attack from that direction and reinforce the area towards which the PCs are moving or strip that area to reinforce where the fire is coming from (which all depends on whether the unit that tripped up is near the PCs or not), and how seriously the enemy commander (MD)

takes the risk of an attack at that area.

## INSERTION

There are a variety of means of insertion as in the basic RECON game. Since most Israeli recon/special operations units are composed of men from the airborne units, parachutes or choppers can be utilized, using the normal airborne or LZ procedures. Operations that involve Naval Infantry Commandos may use SCUBA for insertion. Inflatable boats may be used by any of the RTs as amphibious training is given to all of the elite "commando" units.

The good old combat boot (whether Golani black or Zannahim red) can be used for foot insertion. However, due to the mechanization of Zahal, there are several new options. PCs may use World War II vintage M-2 scout cars, or M-3 halftracks, jeeps with 106mm recoilless rifles, jeeps with TOW anti-tank rockets, M-113 Armored Personnel Carriers, or may ride on (or in the Merkhava) tank.

For "soft skin" vehicles such as jeeps, trucks, etc. the ROAD KILL™ system from SAN SUCCI has been included and expanded.

For armored vehicles there is an extensive section of this supplement devoted to roleplaying a crew of an armored vehicle or using NPCs/armor for combined operations.

New to ROAD KILL™ for those of you already familiar with the system is a table to cover "jumps" over sanddunes, etc. as in numerous action movies. Assuming there is a dune, the table gives the distance a vehicle will travel for each 5mph speed, the damage the vehicle will take for a jump per 5mph, the maximum damage the shock absorbers/suspension system can absorb, and the maximum damage that a vehicle can absorb before being totalled. The maximum damage for jeeps has been increased in keeping with its off-road ability (e.g., for military rather than civilian jeeps)

Upon landing from a jump, a vehicle must make a Control Roll as if it had been rammed.

An additional OFF ROAD table has been added. When driving overland through rough terrain (rocky, sanddunes, swamp, etc.) at Speed Factors 2 or 3, drivers should make periodic Ag rolls (to compensate for the many objects they would have to maneuver to avoid while driving in rough terrain). For any Ag roll that is missed, roll 2d100 on "01 or 02" the vehicle will suffer some damage, roll 1d10 to determine what happens to the vehicle.

Small arms may be fired from moving vehicles as "Marksman Running"; however, anti-tank weapons such as the 106mm recoilless rifle or a TOW cannot be fired with any accuracy from a moving vehicle. The vehicle must halt while the weapon is brought to bear.

# ROADKILL™

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## SEE ALSO PAGES 14 & 31

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Driving vehicles is a necessary skill for maneuvering around a city. The following system is designed primarily for high speed and high risk situations. Puttering about within speed limits involves minimal risk and will only slow play to compute maneuvers; so, calculations are limited to multiple maneuvers (trying to do more than one thing in a 5 second Combat Round) at speeds equal to or less than the vehicle's Cornering Maximum, or any maneuver or condition change at speeds above the Cornering Max.

The Cornering Maximum is the fastest speed that a vehicle can safely turn a corner (90° turn) on dry pavement. This value varies with the type or Class of vehicle: Truck, Jeep, Limousine, Economy Car, Family Sedan, Motorcycle, or Sportscar.

### THE CONTROL ROLL

The driving system is based on the character's Agility. To calculate a character's chance of safely performing a maneuver you will add the values of all maneuvers he is attempting that CR, the Road Condition value that applies, and the values of the Vehicle's Condition. You will multiply this total by the number of Speed Factors above the vehicle's Cornering Max. Then, you subtract this total from your character's Agility and roll against this number. To safely perform, the maneuver the player must roll equal to or less than the total.

### CLASSES OF CARS

The Classes of cars are determined by their ability to accelerate and to corner without going Out of Control.

TRUCKS are 10 to 18 wheel cargo vehicles. Because they accelerate so slowly, there are two acceleration units per Speed Factor, use the higher Speed Factor if they are in the middle.

JEEPS are designed more for durability than acceleration or high speed turns.

LIMOUSINES tend to have mushy suspensions for the comfort of the passengers; therefore, they corner poorly. They also tend to be big, heavy bodied cars, which limits their acceleration. Some examples are: Rolls-Royce, Cadillac, Mercedes.

ECONOMY CARS (small imports), VANS, and PICKUP TRUCKS all have narrow wheel bases that limit their cornering ability. Typical Economy Cars are VWs, Hondas, and Pintos.

FAMILY SEDANS are typical mid-sized American cars; most Chevies, Fords, etc.

MOTORCYCLES represent the better bikes (not the very heaviest hogs or the lightest city toys). A sidecar for a passenger reduces both acceleration and cornering.

SPORTSCARS are any fast, responsive (good handling) car. It may be an import such as a Ferrari, Jaguar, etc., or an American "muscle car" such as a Charger or Malibu. Modified cars with bigger engines and better suspensions would fit in this category.

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### MANEUVERS

There are ten basic maneuvers.

The SWERVE is when a driver attempts to dodge something by making a quick little change in direction.

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A quick lane change would involve two swerves, a swerve into the other lane, and a swerve to straighten out; likewise, a dodge onto the shoulder of the road would involve two swerves for the vehicle to parallel the road.

A CURVE is following a bend in the road that is no more than one-quarter of a circle.

MULTIPLE CURVES are a series of turns without even a very short stretch to compensate. This is cumulative, that is, add the effect of all curves since the last straight stretch, even from previous CRs. An "S" shaped road would involve four curves, if there is no straight stretch.

A 90° TURN would be a sharp turn, such as, turning a corner. This sharp turn is risky at high speeds, and its value is correspondingly higher.

A BOOTLEGGER is the old moonshine runners' maneuver of slamming on the brakes, downshifting skidding the car around in a tight turn that leaves it headed back the direction it came from. The maneuver takes one complete CR; the next CR the driver can begin accelerating from 0 miles per hour (mph). This is the most risky single maneuver and should only be attempted by characters with very high Agility. A bootlegger can only be done by cars (not trucks or motorcycles), and the car must begin the CR at Speed Factor 2 or 3 to have the momentum to complete the maneuver.

A SIDESWIPE is when two cars are running side by side and one swerves into the other to knock the other car off the road. The impact of the maneuver may cause either car to go OUT-OF-CONTROL, so, both will make CONTROL ROLLS. The swerve involved is added separately, the value for Sideswipe indicates the effect of impact.

A RAM is hitting the other car with the front of your car (or rear in reverse). A ram will cause both drivers to make CONTROL ROLLS.

A CUT OFF is swerving in front of another car to stop it. This maneuver involves at least three others (which are added separately) accelerating ahead of the other car, a swerve, and a STALL or emergency brake to a stop. The cutoff vehicle may not be able to stop as fast as the maneuvering vehicle and may accidentally or intentionally RAM it. The driver of the cutoff vehicle must make a successful Alertness roll to have the option of intentionally ramming; otherwise, instinct will cause him to react by STALLING.

A STALL is an emergency brake to a complete stop in one CR (no matter what the vehicle's speed). During a stall, the maneuver will still be multiplied by the highest Speed Factor the car was doing that CR.

REVERSE can be done safely at 1/2 of the Cornering Max of a vehicle (except motorcycles) as long as it is in a straight line. Any faster speed or maneuvering will require a Control Roll involving all current conditions.

#### ROAD CONDITIONS.

Road Conditions are valued by how good the traction is on that surface. Pavement is the best (value 0); so it does not subtract from the Control Roll. Road conditions in increasing value of danger are: rock or rough pavement (potholes, cracks, patches, etc.), dirt, sand, gravel, rain or mud, oil, and ice.

When a vehicle goes from a better road condition to a worse one, make a Control Roll.

#### VEHICLE CONDITION

When the driver or front seat passenger is fired at from ahead, a missed shot (or hit) will penetrate the windshield with a 25% chance (01-25 on 2d100) of shattering the windshield. The player must make an Alertness roll, or be startled by the disintegrating windshield and make a Control Roll Wind in the face will continue to affect all future Control Rolls (add "windshield out" to all future rolls).

When any tire is shot out or damaged by something in the road, the player must make a Control Roll. The vehicle's maximum speed is reduced one Speed Factor for each flat tire. All future Control Rolls must be calculated at one higher Speed Factor than the vehicle is actually maneuvering (e.g., a car with a flat tire moving at Speed Factor two -- its current max -- would calculate its Control Rolls using Speed Factor Three).

If the driver is wounded while driving, he must make an AI roll. If he fails the roll, he must make a Control Roll against all current conditions including "driver wounded". A wound received prior to or during driving will affect all Control Rolls; add "driver wounded" to all Control Rolls.

A vehicle that is sideswiped must make a Control Roll including the "sideswiped" condition. The car doing the sideswiping only adds the sideswiping maneuver, not the vehicle condition.

A moving vehicle that is rammed must make a Control Roll, including the "rammed" condition. The car doing the ramming only adds the ramming maneuver, not the vehicle condition.

If a car is Cut Off, the driver must make an AI roll. If he fails, he instinctively slams on the brakes for a Stall (and must make a Control Roll for the Stall and Cut Off) If he makes the AI roll, he can decide to Stall or to Ram (both will involve Control Rolls).



## SPEED FACTORS

For each Class of vehicle there is an acceleration value given, or how many miles per hour the vehicle's speed can be increased or decreased (except for Stalls) in a CR. A vehicle can normally accelerate three units above its Cornering Max to its Maximum Speed (except Trucks). These 3 units of acceleration/deceleration are the Speed Factors. The Speed Factor value is 1, 2, or 3, not the actual miles per hour. All Control Rolls are multiplied by one, two, or three. (If the vehicle is moving at its Cornering Max or less, still multiply by one).

Since trucks accelerate much slower, there are two acceleration units per Speed Factor. If it is in the middle of a Speed Factor, use the higher Speed Factor.

If a vehicle is stopped, it must accelerate from 0 miles per hour. Each CR it can increase its speed by the number of mph listed for that Class of vehicle (e.g., a truck can increase its speed by 5 mph each CR, a motorcycle without sidecar by 20 mph/CR, etc.).

Likewise, a vehicle that is moving can decrease its speed by the acceleration value. A VEHICLE MUST DECELERATE IN A PREVIOUS CR TO TAKE ADVANTAGE OF THE LOWER SPEED FACTOR FOR CONTROL ROLLS. Control Rolls are calculated using the highest Speed Factor the vehicle was doing that CR.

## OUT OF CONTROL

When a driver fails a Control Roll, he must check the Out of Control Table. How many points he missed his roll will determine the effect on the vehicle (for automatic Out of Control situations roll 3d10).

If no SKID is indicated, the vehicle will only take damage if it collides with an On Coming Vehicle.

If a SKID is possible, the vehicle can take damage either by an On Coming Vehicle OR, if there is no on-coming vehicle, by skidding off the road into a building or other obstacle. The skid is measured only if there is no on-coming vehicle.

## ON COMING VEHICLE

The On Coming Vehicle Table gives the percent chance of a vehicle being close enough for a crash. There are six conditions: Day condition for cities, highways/suburbs, and isolated (less traveled areas) and Night chances in the same locales.

For a vehicle to be at that location, the MD must roll less than or equal to the number given on 2d100.

This table can be used to check for traffic when a car would like to move into the other lane to pass another vehicle.

The table can also be used to check for traffic from side streets at intersections (especially when running a red light during a chase).

## SKIDS

When a vehicle fails its Control Roll, it is Out of Control and will skid 1/2 the distance it would travel that CR at the highest speed it was doing during that CR. For game purposes ignore skids, if the car remains in control (makes its Control Roll). Also, ignore the differences in stopping distances between different Classes of vehicles during a Cut Off (which in reality might yield a "Ram" accidentally if the maneuvering vehicle swerved too close).

Skids allow Out of Control vehicles to crash into buildings, parked cars, trees, etc. (See the DAMAGE section)

Vehicles will skid in the direction of the last maneuver attempted, or at 45° to its road course (either left or right, depending on the Out of Control Table).

## CRASH DAMAGE

When a vehicle is Out of Control and there is an On Coming Vehicle, roll 1d10 on the CLASS OF VEHICLE to determine what will be hit. The MASS of the vehicle will determine the damage done. Roll 4d10 for the speed of the on coming vehicle in mph (low speeds indicate the vehicle is accelerating from a stoplight, stop sign, a turn, or other maneuver). Use 1d10 for parked cars on "shoulder" situations.

To determine the damage, multiply the MASS of the Character's car by its SPEED in miles per hour. Do the same for the On Coming Vehicle. Add these two numbers together, each vehicle will have 1/2 the total points, check each against the CRASH DAMAGE TABLE.

In a RAMMING situation, the ramming car will take 1/6 of the total points and the rammed car will take 1/3 of the total points (disregard the "extra" points).

In a SIDESWIPE (Out of Control) the sideswiping vehicle takes 1/3 of the total points, the sideswiped vehicle takes 2/3 of the total.

The On Coming Vehicle in a "Fish-tailing on Shoulder" situation would be a parked vehicle, treat its speed as 1d10 (times MASS) to represent inertia.

In a SKID do the normal MASS times Speed for the character's vehicle and add the value for the

type of building or other object. The vehicle will take 2/3 of the damage, and the building will take 1/3. If the building total exceeds the Penetration Value, the vehicle actually crashes through the wall 1/2 the distance remaining in its skid when it hit the wall.

#### MAXIMUM DAMAGE

At or above the maximum damage for a vehicle it is "totalled" and will not operate anymore. At 1/2 max. damage, a vehicle is reduced 1 Speed Factor. At 2/3 of max. damage, a vehicle is reduced another Speed Factor. At 5/6 of max., the vehicle is reduced to its cornering max as its maximum speed (or one more Speed Factor, whichever is the lower speed).

#### INTERSECTIONS

At an intersection with a stoplight, there is a 25% chance the light is red (lasting 1d10+2 sec.) If a vehicle runs the red light, check the On Coming Vehicle Table for cars entering the intersection from the side street. If there is a vehicle indicated, the driver should make an AI roll to detect it. On a successful roll the player may attempt to avoid it either by making 4 swerves to dodge around it and continue the direction he was going or turning at the intersection (either will require a Control Roll).

If the player fails the AI roll, there is a crash; follow the normal crash procedures.

#### SCALES/PLOTTING

On the city map a grain of rice is about the size of a car (at 1/720th scale) and a kernel of corn is a truck. On the city map is a scale One-tenth of an inch (one increment or space on the scale) equals one mile per hour each CR. On the city map move the marker (grain of rice, etc.) the scale distance actually moved each CR. If Car A is moving at 60mph, move its marker 60 increments (6") each CR. If Car B is moving at 70mph, move its marker 70 increments (7") on the map each CR.

We can plot on the city map or MD map the actual distances moved, to tell how far they are from intersections, curves, etc. for maneuvers.

When using toy cars with the building floorplans, in one 5 second Combat Round a car would move 1" for each mile per hour (mph), e.g., 30" at 30 mph, 60" at 60 mph, etc. As you can see this could require a fair amount of room.

Since the main situation we will be concerned with for measurements is the distance between 2 cars for shooting or rams, the two (or more) toy vehicles can be placed on the table to represent the distance between the vehicles. Movement around curves and corners would be plotted on the city map or an MD drawn map.

To keep track of the distance between the vehicles, begin by spacing the vehicles out the distance they begin.

EXAMPLE: Car B turns a corner and sees Car A pull out from the curb at the middle of the block, 20" ahead; so, the two model cars begin 20" apart.

Car B tails Car A for several blocks staying 20" apart (both are traveling at 30mph) to avoid detection. After 3 maneuvers the driver of Car A does an AI roll, makes it, and becomes suspicious of the car copying his maneuvers. He begins to accelerate to "shake the tail". Car A is a family sedan and accelerates at 15mph/CR (+15"/CR); Car B is a sportscar and accelerates at 20mph/CR or (+20"/CR). Since Car B is accelerating at a higher rate, it will gain +5" each CR. The models will just be moved closer together.

At the end of the first CR the cars are 15" apart (20" original distance + (Car A 15" - Car B 20"))

The second CR, Car A continues to accelerate (adds another Speed Factor of +15; it is now up to 60 mph) and Car B also accelerates another Speed Factor (+20; it is up to 70 mph). Car A with two Speed Factors adds 30"; Car B with two Speed Factors adds 40"; so, Car B gains 10" on Car A. At the end of the second CR the models are 5" apart (15" apart at the end of the first CR - 10" closer this CR). We didn't have to move them 60" and 70"; just the change in distance between them.

Using two different systems allows us to see where the cars are in the city (where they can turn or might hit red lights) and to visualize the situations better with models. Although you can get by without the models, they add a certain flavor to the game that the rice lacks.

#### EXAMPLE: SITUATION

You are the bodyguard/chauffeur for Sheikh Ahmed Mustafa Hussein. You are driving him back to his condo late at night, after a meeting of the Pan Arabian Natural Gas and Oil (PANGO) consortium. Suddenly you notice that one pair of headlights has duplicated each of your last three turns. You goose it and accelerate through 2 green lights and run a red light (17% on 2d100; a roll of 63 on 2d100 on the On Coming Car Table indicates there are no cars crossing that intersection when you do--15% chance in a city at night).

The other car is pulling abreast of you. There is a gunman at the window. With screeching tires you turn right at the intersection. You are driving at 60 mph (2 Speed Factors above your Cornering Max). MAKE A CONTROL ROLL.

The Control Roll involves a 90° Turn Maneuver (15); Road Condition: Pavement (0), and Vehicle Condition: Normal (0). This totals to

15. This is multiplied by the two Speed Factors ( $15 \times 2 = 30$ ). Thirty, then, is subtracted from the chauffeur's Agility ( $48 - 30 = 18$ ). The chauffeur only has an 18% chance (2d100) of keeping the limo under control. The player rolls a 23 on 2d100, and the limo is Out of Control!

He missed his roll by five points. On the Out of Control Table, the five indicates the car is "Fishtailing" (rear-end swerving) on the near shoulder or sidewalk.

This is happening in a city at night. There is a 15% chance there will be an on coming car (in this case a car parked next to the sidewalk). On 2d100, the MD rolls 52, there is no On Coming Car, and the miss is less than the Skid Level, so the chauffeur manages to bring the car back under control. (If the chauffeur's roll hadn't been so close, he could certainly have skidded the limo into one of the buildings on the near side of the street.)

#### COMBAT: SMALL ARMS

The driver of any vehicle may only fire a pistol using the "Marksman Running" modifier while actually driving.

To fire at a moving car, select the particular area that you are firing at, use the "Target Running" modifier, measure range, and roll 2d100.

To fire from one vehicle at another involves several different situations.

If both are moving at the SAME speed and NEITHER is swerving or making other maneuvers, use the normal target size, range, and roll. The Marksman can be "Braced" on the car body if the car isn't maneuvering and is on pavement.

ON ANY SURFACE OTHER THAN "PAVEMENT" THE MARKSMAN MUST ALWAYS USE THE "MARKSMAN RUNNING" MODIFIER TO COMPENSATE FOR THE CAR BOUNCING.

If the target vehicle is maneuvering, treat it as "Target Running".

If the marksman's vehicle is maneuvering, treat it as "Marksman Running".

If the vehicles are moving at DIFFERENT speeds the faster vehicle is harder to shoot from (use Marksman Running) and harder to hit (use Target Running) when fired on.

#### LAWs/RPGs

When using an anti-tank weapon against a fast moving, soft-skinned (unarmored) vehicle, subtract 5 (from the per cent chance to hit) for EACH Speed Factor above the target's Cornering Max. LAWs and RPGs will destroy anything smaller than a truck on a hit; for trucks use the Hit Location Table in Recon, p. 41.

If the LAW/RPG misses, but the vehicle is within the damage or blast radius, the passengers will take normal damage - 5 points. If the driver is wounded make a Control Roll for "Driver Wounded" AND "Rammed". If the vehicle is within the blast radius, make a Control Roll for "Rammed". There is a 5% chance of engine damage (stopping the vehicle in 1d10 CR), 01-05 on 2d100. There is a 20% chance of a flat tire, 01-10 front tire, 11-20 rear tire on 2d100; this will affect Control Rolls and reduce the maximum Speed Factor one for each tire.

#### GRENADES/GRENADE LAUNCHERS

To throw or shoot a grenade into a moving vehicle, subtract 5 from your Agility for each Speed Factor above the Cornering Max. and use the appropriate size target area (probably window).

As an alternative, you can throw the grenade in the road ahead of the vehicle. This requires estimating where the vehicle will be when the grenade detonates (make an AI roll to determine the best target area; if you make the roll, the car will pass that spot as the grenade explodes). The grenade will ignite the fuel tank and destroy the car and its occupants.

A grenade in the cab of a truck or the passenger compartment of a car will do 2d100 damage to each character in the vehicle. A grenade in the back of a truck will do normal damage to the occupants depending on their distance from the grenade. Roll on Out of Control Table (3d10).

If the grenade misses going in the vehicle or rolling directly under it, but the vehicle passes through the blast radius as it explodes, use the damage procedures outlined for LAWs.

#### FLAMETHROWERS

If the windows are rolled down, the occupants of a vehicle will take normal flamethrower damage plus a roll (3d10) on the Out of Control Table.

If the windows are up, the passengers are safe, but there is a 25% chance the fuel tank will explode and destroy the car and occupants. The jellied fuel will cling to the vehicle for 3 CRs and the driver must make an AI roll each CR or panic and be Out of Control. If Out of Control roll 3d10 for the outcome. Also, roll 2d100 for possible fuel tank explosion each CR.

#### ARTILLERY

A direct hit by artillery will destroy any vehicle and its occupants. If the vehicle passes through the blast radius treat as you did for LAW or grenades using the damage for the particular artillery round.

## CONTACT TABLES

To represent combat in the Middle East, it is necessary to use a new set of Contact Tables (each of the modules to date has included new Contact Tables to add variety to the game; if familiarity doesn't breed contempt for an rpg, it can breed boredom, which is worse).

Included in the Contact Tables are two terrain tables. One represents the occupied lands of the Sinai, which resembles what we might envision the Middle East to be like from movies: vast expanses of sand, rock strewn wastelands, rocky buttes, and a few surprises, such as "marshes" of muddy standing water (but without the vegetation we would assume from the name, here in the U.S.). The other table is for the Golan Heights and Lebanon. This is a hilly to mountainous area with wide valleys, lots of rocks, and occasional forests of small scrubby trees.

The Terrain Tables will help you describe the situation to the players. They are fairly generalized for rough terrain for combat and exclude the more cultivated areas along the Mediterranean Sea and the Jordanian Valley.

The Civilian Contacts are more useful for clandestine operations. During hot periods of actual combat, civilian sightings will be few and far between (for that matter in some of this terrain, civilian sightings will be few and far between). For civilian NPCs, keep in mind that they may be refugees during wartime or people minding their own business during clandestine operations.

The Village Table can be used for either an Arab village of concrete, stone, or adobe style houses or they can be used for the occasional Bedouin tents of the Sinai (don't overdo this; it's not an everyday occurrence).

The Enemy Tables assume you are operating in an area near the frontlines during a war or in a heavily patrolled and defended area of some importance within their borders.

For ops against the PLO, rolls indicating armor would generally indicate the presence of conventional units from the host country, such as Syrian armor supporting the PLO in Lebanon. The PLO did possess some tracked vehicles of its own in Lebanon, older vehicles supplied by sympathetic Arab nations.

## GEAR

Israeli recon units do not wear special patches, insignia, or headgear. Zahal is fairly low key on unit insignia, preferring to deny the enemy any Order of Battle information possible.

Unit 269 has worn civilian clothing on at least two of its ops, the Lod Airport hostage situation as mechanics and the Beirut terrorist HQ raid in street clothes.

Sayaret Matkal used captured Egyptian uniforms, personal weapons, and armor during the "10 Hour War". The men selected for that op all spoke Arabic, and the disguise went so far as to include identity cards.

More conventional operations will involve standard Israeli uniforms. Headgear can consist of small-billed fatigue caps, berets (red for airborne, though as with U.S. Special Forces, the beret is rarely worn in the field), and helmets. Helmets can be of two kinds, the older U.S. steel pot helmet or the more recent ballistic nylon IDF design. Both are usually covered with a mesh camouflage net. (I have still never seen an Israeli trooper with twigs, etc. sticking in the net for camouflage.)

Helmets, either steel or nylon, will reduce the critical hit on a head shot to "01" and will reduce damage on the "02" (brain on hit location, 02-05 on Upper Body Hit Location Chart) by five points of damage.

Zahal is now issuing American style flak vests, and has done so since just prior to the Yom Kippur War of 1973. Flak vests will reduce hits to chest and abdomen by five points. REDUCE ALL Ag ROLLS BY -5.

For grenades and artillery, roll 1d10 to determine how many fragments of shrapnel have hit the character to make up the total damage he has taken. Roll separate hit locations for each, and reduce the total damage taken by five points for each that hits on the chest or abdomen (only if covered by a flak vest). This also incorporates critical hits on hit location into grenade and artillery damage by making it possible to have shrapnel do critical hits. Helmets will still reduce shrapnel damage but only on non-critical, 02 or 02-05, wounds.

Uniforms can be American style olive drab fatigues, an earth brown fatigue, or an odd "tiger stripe" of O.D. (olive drab) with horizontal stripes (that look like they were put on with a paintbrush) of brown, dark green, and light green. Zahal does not issue a dress uniform; it is not a parade ground army. Khaki with epaulettes for rank are the nearest to a dress uniform as you will see.

Around the neck of each trooper on a leather thong (for silence) is his Identity Discs with his name, service number, and blood type. This is often covered with a canvas pouch to prevent noise should it

bump into something. Also carried on the trooper is a "prisoner card" with the information he is allowed to give: number, rank, blood type, vaccinations, name, and family name.

Web gear is fairly similar to G.I. issue with a pistol belt, etc. About the only major difference is the use of leather thongs to tie some ammo pouches; although this is more silent than snaps, it can be slower in a firefight.

Boots are leather and come in two colors: black for most units and reddish-brown for the airborne.

The Israelis are not as freaky over edged weapons as most Americans, and seem satisfied to use an issue bayonet.

#### ISRAELI SMALL ARMS

##### PISTOLS

The .22 caliber Beretta automatic is used for clandestine operations for its low noise level and high rate of fire. Members of 269 are trained to use it from only a few feet their target, and to empty a full mag into the chest.

The .38 Special revolver is a civilian handgun acquired by some armor and aircrews as their personal weapon.

The 9mm automatic, particularly the Browning/FN is popular due to the interchangeability of 9mm ammo with the Uzi.

##### SUBMACHINEGUN

The most widely known Israeli weapon is the 9mm Uzi SMG. It is well balanced and can be fired with one hand. It can be fired semi- or full auto using 25, 32, or 40 round magazines. The weapon of choice for all ops pre-1973, it can be fitted with a "can" or suppressor.

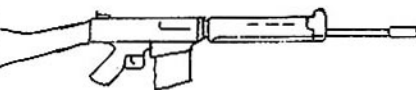
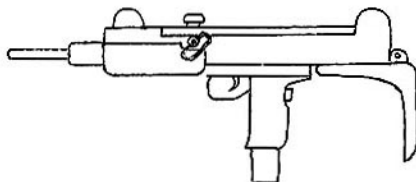
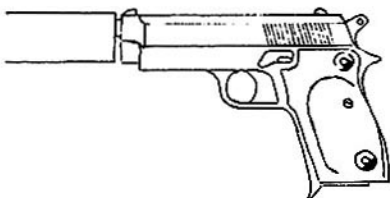
##### SHOTGUNS

Shotguns do not seem to be used by the Israelis, preferring the high rate of fire of the Uzi.

##### ASSAULT RIFLES

The FN assault rifle in 7.62 NATO was the standard Israeli weapon from 1967-1973. It was issued in the semi-automatic version, rather than the selective fire version. It has a 20 round box magazine.

#### NOT TO SCALE



The M-16A1 in 5.56mm was issued as an interim weapon as the IDF switched from the 7.62mm FN to the 5.56mm Galil. It is still in use with many reserve units.



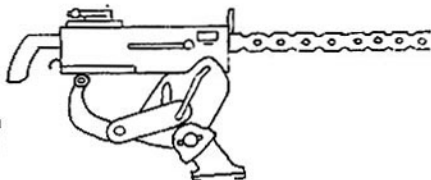
The 5.56mm Galil (nickname "Glilon"), is a selective fire weapon based on the AK series of weapons. Its longer range and high rate of fire allows it to replace both the Uzi and the FN. It was first issued to elite units in late 1972/early 1973 in time to see action during the Yom Kippur War. It can be fitted with a bipod which will serve as a bottle opener (so "Rowai" / rifleman wouldn't bend magazines opening bottles) and as wire cutters. It has a built-in grenade launcher for rifle grenades, and as such, eliminates the need for the M-79 or other specialized weapon and replaces the 52mm mortar for close support. (When fired prone using a bipod add +5, either semi- or "rock and roll").



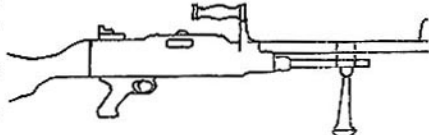
**NOT TO SCALE**

#### MACHINEGUNS

The Browning .30-'06 air-cooled MG is still in use by reserve units. Most have been retrofitted to 7.62mm NATO to avoid the logistical problems of an odd caliber.



The FN MAG (Mitrailleur A Gaz) in 7.62 NATO is the basic light MG. It is belt-fed, bipod mounted (+5 when prone using the bipod, either semi- or full auto). Tripods can be used (rarely on raids), they will add +10 to hit, but require one full CR to mount before the weapon can be used. (This is also true of the M-60). "Magist" is what the IDF nicknames their machinegunners.

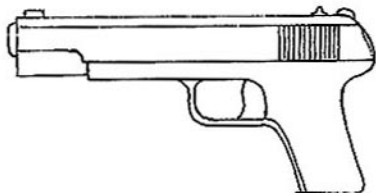


The Browning .50 caliber heavy MG is mounted on tanks and APCs for anti-aircraft and infantry suppression fire by the track commander. It receives the +10, tripod equivalent bonus, only when the vehicle is immobile.

#### ARAB SMALL ARMS

**PISTOLS** (Officers and tank and heavy weapons crews)

Soviet weaponry is the mainstay of the Arab armies and terrorists. As such the Tokarev 7.62x25mm is a common handgun for officers, pilots, and tank and heavy weapons crews.





The Mikarova (9mm short) is based on the Walther PP design, and follows the Soviet use of odd calibers to prevent enemy troops from using captured Soviet supply dumps.

#### SUBMACHINEGUNS

The Port Said is an Egyptian copy of the 9mm Swedish K/Carl Gustav SMG. It was used in the 1957 Suez War, but has been replaced by Soviet weapons.

The PPSH in 7.62x25mm was used in both the Suez and Six Day Wars, but has since been replaced with folding stock AKs.

#### ASSAULT RIFLES

The SKS in 7.62x39mm is a semi-auto carbine. After 1967 it was phased out of front line troops, but still could be encountered on sentries in rear areas.

The AK and AKM or AK-47 is the 7.62x39mm standard issue weapon for Arab and terrorist troops. The folding stock version is common among paratroops, commandos, incursors (Egyptian "frogmen"), and in use by Israeli recon units (prior to the intro of the Galil).

The SVD (Samozariadnyia Vintovka Dragunova), 7.62x54mm sniper rifle uses the larger sized round for the PKS belt-fed MG.

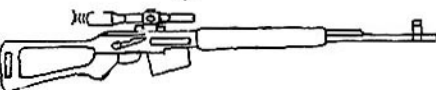
The AK-74 in 5.45mm has been issued to Soviet units since 1975. As yet there are no reports of it being in the Arab arsenal, but will certainly make an appearance for elite Arab units (although the USSR may wish to phase out the older AKs by selling them to their allies). Damage will approximate the 5.56mm M-16/Galil round.

#### MACHINEGUNS

The 7.62x39mm RPK is a long barreled version of the AK-47 with either a 40 round curved "banana" magazine or a 75 round drum.

The 7.62x54mm PKS is a belt-fed light (bipod mounted) MG.

The 12.7mm (.51 caliber) DShK heavy MG is found primarily mounted on the turret of tanks or APCs for anti-aircraft and ground troop suppression. Again, it is another of those odd calibers to prevent use of its ammo.





## RIFLE GRENADES

Rifle grenades are fired from an attachment over the barrel of the weapon; modern systems allow the weapon to be fired normally without removing this attachment. To actually fire a grenade, it is slipped over the attachment and a blank cartridge is placed in the weapon to launch it. This process will require one CR to perform.

For the Galil (the most common) use the normal grenade Launcher Table. The maximum range is 200 meters; within that range the Israeli system is accurate as the M-79. The rifle grenade can fire HE, WP, smoke, or everything but flechettes.

## DOWNING BIRDS

In the basic RECON rules, there is not a detailed section on downing enemy aircraft, either fixed wing aircraft or rotary wing aircraft (choppers). Since the U.S. was the only side using aircraft for ground support missions, it was unnecessary for a detailed system to cover NPCs downing aircraft.

In the Arab-Israeli wars, both sides have extensively used aircraft for tactical air support and helicopter assaults, resupply, and medical evacuation. It is appropriate at this time to cover possible anti-aircraft techniques.

These rules will cover downing either fixed wing or rotary wing aircraft using either small arms or shoulder fired Surface to Air Missiles (SAMs, the most common being the Soviet-supplied SAM-7 "Grail" which is used by both sides, the Israelis using many captured arms).

With either system there are four possible outcomes: MISS, with no damage; DISABLES some system where the bird must discontinue its attack; CRASH which may force down a chopper (but doesn't necessarily destroy the bird or its passengers); and EXPLODES in mid-air destroying the bird and all personnel onboard. From the outcomes, you can see that any hit will have some effect on the bird. This obviously exaggerates the damage done for game purposes.

For small arms fire on birds, there are three tables: FRONT, SIDE, and BOTTOM. Use the FRONT table as the aircraft approaches or pulls away. Use the SIDE table as an aircraft passes by, but not directly overhead. Use the BOTTOM table when an aircraft passes directly overhead.

When the bird is within the range table for your weapon, you may fire on it as you would for any other target. Due to its extreme speed aircraft are treated as only man-sized targets at any range. If the bird is moving, treat as a "man running" and subtract from range from your marksmanship with that weapon and roll 2d100. If you hit, roll on the hit location table to determine the location and damage.

Any strafing run will take at least one CR, allowing PCs to fire their maximum number of rounds. With five rounds, two would be as the aircraft approaches, one either overhead ("bottom") or side, and two as the aircraft pulls away ("front" table again).

If the target is a helicopter hovering, treat as a "man standing" for ranges up to twice the maximum listed on the table for rifles. Add +10 for ranges less than the max.

## GRENADES

Grenades, either hand or rifle, may only be used against choppers with doors open to the passenger compartment. Measure the range and treat as a "window-sized space" if the chopper is moving or "door-sized space" if the chopper is hovering or on the ground, and roll on the grenade tables. If the grenade explodes on target or within one yard of its intended point of impact it will be within the chopper and will cause it to EXPLODE. If the frag lands outside the chopper and explodes, roll for damage on the chopper hit location table for damage.

## LAWs / RPGs

LAWs and RPGs may only be fired at birds hovering or on the ground. The target is LARGE. Substitute OBLIQUE for BOTTOM shots on aircraft. Any hit by a LAW/RPG is treated as EXPLODES.

## SURFACE TO AIR MISSILES (SAMs)

The U.S. Redeye and the Soviet SAM-7 "Grail" are both used in the Middle East, with Arab and Israeli forces. Zahal makes optimal use of captured weapons to supply its troops, using captured small arms, tanks (the Israeli T-1967s are simply captured T-55s from the 1967 War), artillery (particularly Katyushas), and RPGs. Captured weapons are much cheaper than imports.

Both the Redeye and the Grail are shoulder fired, infrared guided (heat seeking), low altitude anti-aircraft missiles. They have an effective range of about two miles or 10,000 feet altitude, and home in on the engine exhausts of aircraft.

With the SAM skill, you will roll your base per cent on 2d100. This will be affected by the range to the target and the target speed.

For airplanes, you will only get one shot per pass of the aircraft. With choppers you have time to fire one missile at extreme range (two miles) and a second at one-half mile; If you have a loader who will reload you (he must make a successful Ag roll or there will be a delay of one-half CR, which will allow a jet to get away and a chopper to move by you out to one mile away).

SAMs can miss. They can be defectively manufactured, made defective by rough treatment in the field, poorly fired, or confused by multiple targets or evasive action.

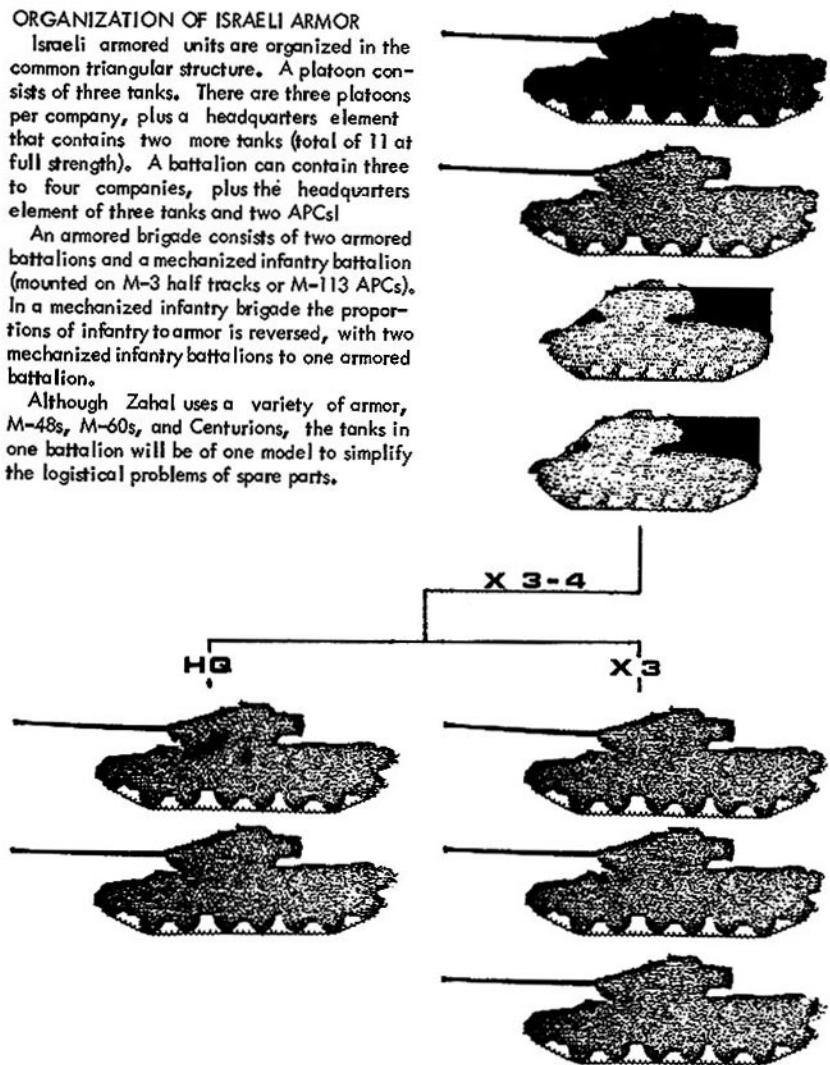
For SAMs subtract the modifier for the target at its current range and roll against your base to hit. If you hit roll 2d100 against the damage table. In combat SAM-7s tend to damage the jet exhausts causing aircraft to discontinue their attack rather than movie-style mid-air explosions. Still, what would a game be without a few dramatic kills.

#### ORGANIZATION OF ISRAELI ARMOR

Israeli armored units are organized in the common triangular structure. A platoon consists of three tanks. There are three platoons per company, plus a headquarters element that contains two more tanks (total of 11 at full strength). A battalion can contain three to four companies, plus the headquarters element of three tanks and two APCs.

An armored brigade consists of two armored battalions and a mechanized infantry battalion (mounted on M-3 half tracks or M-113 APCs). In a mechanized infantry brigade the proportions of infantry to armor is reversed, with two mechanized infantry battalions to one armored battalion.

Although Zahal uses a variety of armor, M-48s, M-60s, and Centurions, the tanks in one battalion will be of one model to simplify the logistical problems of spare parts.



# Section III:

## Track Commander

### INTRODUCTION

The proper opponent of armor is armor. Although the Egyptian infantry posed a valiant opponent to the Israeli tankers with their RPGs and Anti-Tank Guided Missiles (ATGMs), ultimately infantry is a limited obstacle to the armor and firepower of modern tanks. Nowhere has modern armor fought in such numbers in recent years as Sinai and the Golan. While we might postulate hypothetical NATO/Warsaw Pact confrontations, such systems would have to be based on results of armored conflicts between Soviet supplied armor and anti-tank weapons to the Arabs and Western supplied tanks and anti-tank weapons to the Israelis. The wars in the Middle East have become a testing ground for the Superpowers, while avoiding direct armed confrontations themselves.

With their basis on armor and anti-tank weapons from 1967 to the 1982-83 Summer War in Lebanon, these rules have a foundation in the development of most of the major weapons systems that would be encountered should Russia and the other Warsaw Pact nations invade Western Europe in the near future.

Only those vehicles in the armories of the belligerent nations between 1967-83 are included due to availability of data. This does include the T-72 which confronted the Israeli produced Merkava for the first time in the Bekaa Valley of Lebanon during the Summer War of 1982. However, the numerous NATO vehicles or World War II variants will have to await expansion, should there be adequate interest.

### COMPARISON OF ISRAELI-ARAB ARMOR

If you compare some of the factors on the various models of tanks used by the Israelis and the Arabs, you will notice that some of these factors are weighted in favor of the Israeli tankers. This is not from anti-Arab bias, nor to favor PCs; rather it represents some of the differences inherent in the design of Soviet supplied armor versus the British and U.S. designs.

Soviet tanks are small to minimize their silhouette or target area. As a byproduct of this approach Soviet and Arab tankers must be smaller than average men; yet, still function

in a cramped environment. Added to this is the lack of a turret cage, a platform that moves in synchronization with the turret, which forces the loader and gunner to maneuver around to stay up with the moving turret and increases the risk of being injured by the main gun recoil or ejected shell casings. Loaders in Soviet designed tanks must be left handed to load shells from the position they must assume to load the main gun!

This low silhouette design presents other problems for the crew. First, the main gun must be elevated (raised) after each shot to allow the next round to be inserted; since shells must be inserted from the top of the breech but there is insufficient clearance in the cramped turret. Each time this is done, the gun must be brought to bear on the target with a certain amount of error, rather than as one continuous operation. Second, this lack of turret space means the main gun cannot be depressed more than 4° from the horizontal; so, the tank cannot fire from a higher elevation than its target without fully exposing itself (as opposed to a hull-down position). The larger turrets on Israeli tanks allows their main gun to be depressed 10°, and the tanks to fire from a hull down position (with part of the tank concealed behind an object).

The training of Arab tankers follows Soviet doctrine. Without optical rangefinders to accurately determine range, the Arab crews must estimate ranges, which reduces their accuracy (and first shot probability). Soviet doctrine encourages massed fire by all tanks on a single target to compensate for this inaccuracy; however, this denies the Arab crews the mobile, one-on-one tank combat system which the Israelis utilize so successfully.

Israeli tankers prefer to bypass much of the ranging calculations (and delay) by firing flat trajectory APDS (armor piercing discarding sabot rounds). This allows them to simply fix the enemy in their crosshairs and fire without calculating elevation. While not as accurate as extended calculations, it is much quicker in a situation where split seconds are critical.

Soviet doctrine does not encourage initiative along the chain of command. Instead, there is a rigid system of trickledown authority. This is represented in only the Soviet platoon tank having two-way radio communications;

all other tanks cannot broadcast information but only receive orders. While this does reduce unnecessary chatter on the command channels, it does make it difficult to hand off a target that one tank spots to other tanks in the same unit without hand or flag signals from tank to tank.

Soviet doctrine also directs that all tanks fight in the "buttoned up" condition (with all hatches closed). This reduces the visibility the crew has of the terrain and what may be in it (such as Israeli tanks)! In combat the Arab tanks would always be fighting using the reduced observation of "buttoned up". This practice also adds crew fatigue and resulting inaccuracies from the heat of the arid desert in a cramped tank. Soviet tanks are not designed with crew comfort as any priority.

BUTTONED indicates the crew is inside the tank with all hatches closed (and looking through periscopes, vision blocks, or sights).

UNBUTTONED indicates some of the crew are exposed, with head and torso out of the hatch.

The T-62 has an autoloader to increase its rate of fire; however, when it is used a hatch on the top of the turret must remain open so the spent shell casing can be ejected directly out. If the hatch is closed, the casing will ricochet around inside the fighting compartment (very possibly injuring one or more men). This hatch must be a tempting target for Israeli infantrymen at close quarters.

As you have probably already surmised, many of the major problems facing the Arab soldiers is a result of Soviet supplied equipment and training, rather than from inherent differences between Arab and Israeli fighting men. The much maligned Arab soldier hardly deserves the reputation that Soviet mismanagement has procured for him.

Armor has played such a significant role in the Arab-Israeli wars, that it is necessary to include extensive material on tracks (tanks and armored personnel carriers). Whether a small elite unit facing armored opponents or an armored platoon or shock troops operating atop tanks, the necessary rules become fairly involved.

#### NPC ARMOR

In the following sections you will find the necessary details to allow TRACK COMMANDER to be used as an RPG; however, you may only be interested in having one or two tanks in support of your PCs or have APCs for

your team. When track crews are NPCs you should minimize the number of rolls involved to the bare minimum. Rolling for maneuvers that don't involve PCs will only slow the game and bore your players.

Basically, you need an Alertness for the TC, an accuracy for the main gun, and the rate of fire. Israeli tanks should have the bonuses included for main gun accuracy and rate of fire. The TC's accuracy with his .50 machine-gun may not be necessary until a specific situation arises. Other details can be generated for an NPC crew as background for the detail conscious MD.

Players can run two characters, a member of a track crew (which might be more active during the march to an objective) and a recon who will be more involved in the assault on the objective. This will allow players and MDs to become familiar with TRACK COMMANDER gradually, until both are ready to try a pure armor scenario.

In an attempt to be as comprehensive as is reasonably possible, you may find too much information to assimilate at one time. Pick and choose what you want. You may want to start off with simple armor versus armor or armor versus infantry scenarios without options such as anti-tank guided missiles, smoke, night observation devices, maneuvering within a tow, etc. It is much better to start with a solid foundation and buildup.

#### ROLEPLAYING

As an option, these rules can be used to roleplay a tank crew. The rules are based on a typical armored crew of four men: Commander, Driver, Gunner, and Assistant Gunner (or Loader).

The basic attributes: St, Ag, and Al are rolled using 2d100.

Normal Height, Weight, and Age rolls can be made for TC characters.

As with SAYARET, TC characters should roll to determine the number of language skills they possess; this could be important for radio intercepts of enemy tank communications or during escape and evasion from a disabled tank.

#### CHARACTER CLASSES

In a tank crew of most tanks there are four men with special tasks and responsibilities. It will be up to the players to organize their PCs into a crew. If an NPC must be used to fill out a crew, the Assistant Gunner should be filled by an NPC.

The Track Commander (TC) orders the course of the vehicle and designates the targets (orders which target to fire on first). He must have a high AI to recognize the threats of enemy tanks, ATGMs (anti-tank guided missiles), RPGs, mines, aircraft, and other dangers. Additionally, he should have a high St, because it is Standard Operating Procedure (S.O.P.) for Israeli commanders to operate from an open turret where they can see and coordinate. Only in the heaviest artillery, do some of these commanders seek shelter within their turret; the casualty rate is high among TCs.

The Driver is in immediate control of this multi-ton behemoth. Seated at the fore, he will require a high AI to detect threats to the tank and its crew (although his view will be

restricted compared to the TC's; see OBSERVATION). The Driver should also have a high Ag for rapid maneuvers (ROAD KILL).

The Gunner must have a high AI to site and range the target. He determines the accuracy of the main gun of the tank.

The Assistant Gunner (A Gunner) or Loader will determine the vehicle's rate of fire. He must have a high Ag to load the gun rapidly. Should the Gunner be killed, the A-Gunner will assume his duties.

In establishing character classes, the PC with the highest AI will probably be the TC. The next highest AI should be the Gunner. The highest Ag should be the A-Gunner. This is not a requirement, but is recommended.

Once the roles or character classes have been determined for each PC, the players can now add their bonuses and select skills.

## SKILLS

Any new TRACK COMMANDER character begins with 1d10/2 + 3 skills (4-8 skills). Although he is free to select any of the original RECON skills, he will increase his and his crewmate's chance of survival by selecting from the following list. (Any player character that chooses primarily RECON skills is a recent replacement and operates at a -10 on his first three tank missions. If he and the rest of the crew survive that long.)

**Detect Mines** - (+5 AI) This skill allows PCs (in an unbuttoned condition only) to increase their ability to detect mines in roads or other terrain.

**Engine Maintenance** - The first time this skill is selected, the PC rolls a base per cent for knowledge of diesel engine maintenance. All additional skills increase this by +5. For any engine damage or breakdown, the MD will roll 2d100 for the difficulty in repairing the engine. If the difficulty is greater than any PCs maintenance skill in that area, then the damage is not field repairable. The MD's roll will also represent the number of minutes required to repair the system to an operable state.

**First Aid** - The first aid skill allows any PC to treat wounds with basic first aid (which will remove two points of damage per wound, except Critical Hits, "01, 02"). As with the Medic Skill, no wound may be treated more than once to remove additional damage, but later wounds may be treated. As with the Medic Skill, it requires one CR per St point restored; during which time the PC applying

first aid cannot perform any other crew or combat functions. This skill is open to all RECON characters.

**Forward Air Controller** - As in RECON, this skill allows a character to call in airstrikes on a target. (Normally, this would be performed by the TC.)

**Forward Observer** - Due to their familiarity with artillery from coordinating tank main guns, artillery F.O. is open to any crew member.

**Machinegun Skill** - The TC should possess the Heavy MG Skill to fire the .50 caliber MG on the turret by his hatch. (If he fails to have this skill, treat as "Unfamiliar Weapon", -15). The Gunner, at least, should have the light MG skill; if he fails to select this skill, treat as Unfamiliar Weapon.

**Main Gun Repair** - This skill allows the PC to make field repairs on the main gun mechanism for elevation and traverse. (It does not allow him to make electrical repairs on infra-red or night observation devices.) The system is the same as Engine Maintenance.

**Navigation** - (+5 AI) This skill like Land Navigation for Point allows the character to have a better chance of remaining on course on long distance ops. Treat as Land Nav with occasional terrain features to make them realize that they are off course.

**Night Observation Devices** - When selecting this skill, the player must select either infra-red or Light Intensification. Light intensification is appropriate for post-1973 scenarios

only. Without this skill, either system may be used with a 10% chance of system malfunction (irreparable in the field), 01-10 on 2d100, each time the system is used.

**Sagger Watch** - (+5 AI) This bonus applies to characters in an unbuttoned condition. It increases the chance of detecting the launch of any anti-tank weapon, but only one roll per CR by each player with appropriate field of view is allowed for each anti-tank weapon launched, whether at their vehicle or at any other.

**Small Arms** - Appropriate small arms for a track crew are: Pistol (9mm Browning), Pistol (.38 Special), or Uzi (9mm SMG). The Uzi with its high rate of fire and compact size is ideal for tank crews; however, you can see numerous photos of Israeli tankers wearing pistols.

**Survival** - This is essentially the Mercenary Skill "Desert Training". There are seven skills already listed: Detect Water, Detect Sandstorms, Detect Food, Identify Mirages, Ride Camels, Ride Donkeys, and Ride Horses. Each of these skills must be selected separately.

**Detect Water** - In this dry terrain, there is only a 5% chance that there will be water in the vicinity. The MD will roll to determine if there is water available whenever characters are looking for it. (Which is, of course, an opportune time for distinguishing between heat refraction created mirages and the real things.)

**Detect Sandstorms** - There is a 2% chance that there will be a sandstorm on any op; if the MD arbitrarily decides to include a sandstorm, any character with this skill gets a roll to detect it in time to find cover.

**Detect Food** - Even in the desert there is food for the wary survivalist; it may not be very appealing (lizards, birds, bird or snake eggs, a snake, small rodent, a buzzard, a dead animal carcass, a jackal, antelope, or insects, such as locusts). There is a 10% chance that food will be in the vicinity; you can then roll 1d10 on the above list and determine what it is.

**Riding** - Riding any animal without a saddle requires an Ag roll every mile. Riding with a saddle requires an Ag roll only when moving at a trot or faster. Any special maneuvers, firing while riding, fighting, etc. require individual Ag rolls each time it is attempted.

**Target Acquisition** - (+5 AI) This skill represents familiarity with the terrain, and the

ability to predict likely points of ambush or cover (for hull down situations). In any area there might be 1d10/2 (1-5) good possible ambush sites. The player can make rolls for each, but would only be informed of those that he successfully rolled for. (Most would be good potential ambushes.) This, at least, allows the crew to be prepared with the turret turned to engage a possible enemy as it passes that spot, with a near certainty of a first round shot or spotting anti-tank launches.

Good ambush spots will probably be useful for hull down positions, should the crew decide to set an ambush of their own, and they may have several possible choices if they "know the terrain well".

**Target Identification** - (+5 AI) When engaging tanks at long range, it is possible to accidentally fire on friendly units. You're just as dead from friendly fire as otherwise. This skill will increase your ability to quickly identify the type and nationality of a tank; this is important with T-1967 (captured T-55s) and Centurions which are both used by Arab and Israeli forces.

**Tread Repair** - Tread repair is like other maintenance skills. Treads are particularly vulnerable to damage or breakage from extended use over rough terrain. Time for tread repair is four times the damage roll in minutes; this can be decreased proportionately for each crew member out of the tank working on tread repair. Any PC without the skill reduces the time by one-eighth; any with the skill, by one-fourth.

**Turret Maintenance** - Turret Maintenance will allow the player to repair the turret traverse mechanism (if his skill level is above the damage suffered); otherwise, the turret may only be hand operated at twice the normal turret rotation (which may be critical when engaging multiple targets). The basic system is the same as Engine Maintenance. External damage must be repaired outside the tank.

## EXPERIENCE

As in RECON, the crew of a tank operates as a unit and so there is one total that is divided equally among all crew members.

If they have a specific mission to perform and it is successful, they get 100 points. For each enemy tank put out of action they get 25 points, (either destroyed or abandoned by its crew / captured). For each anti-tank weapon destroyed or put out of action, they get 15 points. For each armored personnel



carrier destroyed or put out of action, 10 pts. For each soft skin (unarmored vehicle), 5 pts. For any squad sized infantry unit (about 8 men) who do not have anti-tank weapons (otherwise treat as anti-tank weapon for points), you get 5 points if they are routed or eliminated.

Each of the tanker skills costs 100 points, except Small Arms which cost 150. This will keep the system interchangeable with RECON and allow tankers to select skills for extra-vehicular activities (outside the tank), once they have mastered their tanker MOSs (e.g., have high ratings and are looking for a change).

Tankers do NOT get experience for actions outside the tank operating as infantry; that is not what they are trained for.

If your tank is destroyed, you do not get any experience for that mission. If your tank is damaged beyond field repairs that the crew can handle themselves, you lose 100 points from your total. If any crew member is killed during the mission you lose 100 points.

St, Ag, and AI may not be improved with experience. Only skills may be improved or used to increase the PC's chances of survival.

#### MINIATURES

The ranging devices on Israeli armor have, and continue to be, superior to those used on the Soviet-supplied weapons. This allows the Israeli crews to engage (fire at) the Arab tanks while outside the effective range of many of their weapons. At ranges of 1800 meters, it becomes impossible to represent armor vs. armor combat in a scale of 1:1 with any line of miniatures that cover the necessary vehicles. Using 1/300th scale miniatures, at 1:1, the two models would be six meters apart to represent 1800 meters; you would need an awfully large playing area. At 1/72nd scale (using HO vehicles), you would need about 25 meters between models, and for 1/35th scale, you would need over 50 meters!

Range is important in determining the probability to hit, but the distance can be determined arbitrarily by the MD. It is not necessary to actually measure the range, nor is it even necessary to have a target vehicle (although it makes the game more exciting to see what your target looks like, but that can get expensive).

**RANGE CAN BE DETERMINED USING 1d20 x 100m (100 - 2000m); SHORT RANGES RESULT FROM IRREGULARITIES IN TERRAIN WHICH OBSCURED THE TARGET.**

It is necessary to have a tank for the PCs to determine the direction of the turret and fields of view for the TC and Driver, but for the beginning players, this can be any toy

or model tank that is handy. Ideally, a model of the tank the PCs are actually crewing will make explanations easier.

Currently there are two major scales that contain the necessary Soviet vehicles, 1/300 and HO scale (1/87th). (I still do not understand why the 1/35th scale plastic kit manufacturers have not released modern Soviet armored personnel carriers, etc.)

The 1/300th scale are easier to store and individually cheaper (except they tend to come in sets of five).

The HO scale vehicles have the advantage of being close enough to 1/72nd scale that 20mm metal miniatures for PCs can be used. Plug Time: the HO scale vehicles will work well with the new Platoon 20, U.S.A. line of 20mm RECON Sets.

If you intend to use miniature tanks, regardless of scale, the following may be of use in painting your model.

The basic color should be sand yellow for Israeli tanks.

On the sides of the tank will be a series of chevrons to indicate which tank battalion the tank belongs to (in white paint):

1st Bn (Point Up)	▲
2nd Bn (Point Forward)	◀
3rd Bn (Point Down)	▼
4th Bn (Point Rear - Uncommon)	▶

On the barrel are white paint rings to show which company the HO tank belongs to:

One Ring (First Co.)	I
Two Rings (2d Co.)	II
Three Rings (3rd Co.)	III
Four Rings (4th Co.)	IIII

During combat individual tanks and APC may carry temporary identification marks, a letter of the Hebrew alphabet followed by a single digit number. This may be in black or white paint or with canvas tied on with the tactical marks on it. These are generally hastily done, and therefore rather crude.

All vehicles in Zahal have an identification number of six digits followed by the letter "tzeh" (for Zahal). This is generally stenciled in white letters on a black rectangle located on the front (or the side near the front on APC and half-tracks).



## MOVEMENT

Tanks are massive hunks of metal that require a large powerplant and a good transmission to get them around. Should either of these go out, the tank is just a heap of metal.

Although the maximum speed seems slow compared to a car, their normal speeds are much slower. During day on a dirt road, a tank will move at about 12 miles per hour; off road, it will be even slower (or really rattle the crew around inside). At night, off road, a tank may move at about 5 mph.

Tanks only approach their maximum when they are charging balls-to-the-wall toward an enemy position and have to close the range as fast as possible.

In reverse, a tank can do about 1/3 its max.

For each tank there is a maximum range listed to allow you to plan missions. Grinding cross-country or even on a good road is wearing on the crew and the tank. Even well maintained tanks breakdown; if a tank moves 200 miles, it has at least a 33% chance of some mechanical failure.

**TURRET MOVEMENT.** The use of a model is important in determining how quickly a tank can move its turret from its current position to bring it to bear on a new target. Turrets will be assumed to move 90° per CR, normally; however, damaged turrets which must rotate manually will take twice as long, or only 45° per CR.

**MAIN GUN TRAVERSE.** For simplicity, the main gun can be brought to bear on a target within 15° of either side of the main gun (a 30° arc) without shifting the turret. Any target more than 15° from the main gun can only be engaged by turning the turret.

It should be apparent that you should shift your turret beforehand to cover likely terrain for enemy tanks or anti-tank weapons to be able to fire quickly.

## MANEUVERING

Tracked vehicles, except halftracks, are controlled by alternating the amount of power to the two treads. This involves separate controls for each tread. Turns are performed by controlling the off-side track (away from the direction you are turning) at a faster speed than the on-side track; turns are made by pivoting on the slower track.

The ROAD KILL™ system has been expanded to incorporate tracked vehicles. All high speed maneuvers are performed against the driver's Ag. There is no purpose in slowing the game by having the driver make innumerable Ag Control Rolls for slow speed maneuvers.

About the only maneuver tracks cannot perform is the bootlegger; even this can be performed after a fashion with modern tanks.

**STALLS** may be very useful if a mine is detected in the road or terrain, or to set up a high speed reverse from a successful Sagger Watch.

At close range tanks can even ram other tanks, armored vehicles, or soft skins with damage given.

If a driver fails an Ag roll to avoid an obstacle, the vehicle hits it (whether a mine, rock, building, or other vehicle).

On other maneuvers, if a driver fails his Ag roll he only completes half of the maneuver (45° of a 90° turn, etc. and plot his maneuvers from there).

## MINES

Tanks will encounter two basic types of mines: anti-personnel (which will not harm the tank) and anti-tank (which can be lethal should your TC and Driver fail their AI rolls).

For game purposes, if a tank overruns an anti-tank mine, the mine will break the tread nine out of ten times (1-9 on 1d10). On "10" on 1d10 the driver takes 2d100 damage and the TC takes 4d10 if he is unbuttoned. The tread is broken and a road wheel is sheared off.

For rocks or buildings use the ROAD KILL™ building system to determine damage. For vehicles use the Crash Damage system. For each 100 points of damage that an armored vehicle takes, there is a 5% risk of breaking a tread; total and roll against on 2d100. The tracklaying gear is the most vulnerable area of the tank.

Tanks (not APCs) can bulldoze their way through the brick-concrete-adobe-rock buildings of the Middle East. For effect use the Crash Damage system to determine penetration with the following considerations: there is a 5% risk of breaking a tread per 100 points of damage (e.g., 20% for concrete or rock and 15% for brick or adobe); there is the same per cent risk (20 or 15%) of damaging the accuracy of the main gun (reducing your accuracy by -10); there is a 50% chance that the commander's .50 will be inoperable; and an 80% chance that all exterior stowage of fuel, water, and bedrolls and other personal gear will be lost or damaged.

## EVASIVE ACTION

To avoid ATGMs, the driver must perform at least three successful swerves, turns, etc. to throw off the enemy gunner, just charging in a straight line forward or reverse makes an easy target. The commander should be firing his .50 and the gunner his main gun to put as much suppression fire as possible and throw off the gunner's aim. (SEE SAGGER WATCH under ATGMs). The commander should also set off his smoke dischargers.

**OBSERVATION**

Included in the back is a play-aid to help determine the fields of view of the various crew members either UNBUTTONED (with their heads exposed through hatches) or BUTTONED (where they must observe through periscopes or vision blocks which limit their vision).

**COMMANDER** - The commander can normally see 180° in the direction he is facing generally toward the direction the turret is facing. Buttoned up, the commander only has a 120° field of view (again, generally in the direction the turret is turned). Either buttoned up or unbuttoned, the PC may check behind him if he specifically states he is doing so.

**DRIVER** - Due to his location at the front of the tank and lower than the commander, he normally has a 120° field of view unbuttoned, and a 60° field of view buttoned up. Due to the turret, he cannot look behind him, except through external rear view mirrors (like on a car) which offer him 60° views on each side of the turret.

**GUNNER** - On most tanks the gunner has his own hatch and vision blocks which makes his vision equal to the commander. However, when he is at the gunsight (especially at night using Infra-red or Light Intensification Devices) he only has a 60° field of view in the direction the turret is pointing.

The playaid is designed to cover the various degree fields of view available. This can be placed in front of the crew member's location and used to determine if the target falls within that PC's field of view (without turning either the tank or turret).

If an object is within the field of view and large enough to be clearly seen, then the PC is assumed to see it.

If the object is small or camouflaged, then the PC should make an AI roll to detect it.

**RANGE**

In clear flat desert, it is possible to see an object of tank size out to 5 km or 3 miles. Dunes, brush, haze, or rocks can reduce this.

At night, the maximum range using a Starlight scope is 1000m; using an Infrared scope (Soviet tank) is 800m; and using a searchlight is 1500m (but you're a sitting duck).

Infrared and Starlights are limited to the gunner's 60° field of view through his sight, and can only be shifted by moving the turret or the whole tank.

At night the flare of an ATGM's rocket will make it clearly visible to the naked eye.

**SMOKE**

Soviet supplied Arab tanks are capable of generating a smoke screen by spraying diesel fuel into their exhaust system. It will take at least 2 CR before there is sufficient smoke to reduce the chance to hit by -5. Bear in mind that this smoke is generally streaming out behind the tank; so the tank has to maneuver behind the wall of smoke to use it. Otherwise you might see a tank streaming smoke that is not between the observer and his target. The smoke will last up to 10 CR; you can roll 1d10 to determine wind effects on the smokescreen.

Israeli smoke dischargers are located on the turret front. They will put out sufficient smoke in one CR to reduce the chance to hit by -5.

**BASE SCORES**

The TRACK COMMANDER system is based on a set of base scores which represent an average efficiency of a weapon or weapon system. Added to this is a bonus for the individual or crew's training and experience with this weapon. This system narrows the range ("01" to "100") of a purely random 2d100 system to a smaller, but more realistic, range of probabilities based on available research on each weapon's performance in combat. By using battlefield data, we can, in effect, factor in many of the normal modifiers involved in rpgs or miniature rules without dealing with each separately. This will simplify the tables/systems for some of the newer weapons introduced and will increase playability without reducing the realism of how a weapon performs in combat.

In keeping with this approach, the effects of armor vs. armor and armor vs. anti-tank weapons is based on a system where each weapon is given a factor (a number from one on up, 15 being the current maximum anti-tank weapon, TOW-3) and armor is rated by the smallest factor that is known to be able to penetrate it. This eliminates any lengthy tables of armor thicknesses or armor penetrating ability and a ready incorporates the angle or slope of armor.

**TANK MAIN GUN**

Range and accuracy of tank main guns depends primarily on the accuracy of the range finder. Soviet tanks through the T-55 relied on a recticle with lines like a telescopic rifle sight to estimate range; this poor system is reflected in the low base for accuracy. U.S. supplied tanks, the M-48 and M-60 rely on a prism system on each side of the turret which

gives a much more accurate system for figuring range. The British Centurion which is used heavily by Israel and Jordan (with a few in 1967 in Egypt) uses a system similar to the 106mm recoilless rifle; a .50 caliber tracer is fired with the same trajectory as the main gun, if it hits, the main gun will hit. This allows the tank to conserve ammo until sighted in.

Some tank guns have been stabilized since World War II, and this allows them to be fired while the tank is moving. The base for each model of tank already incorporates this and will allow you to play without having to halt and fire certain vehicles. Action can continue without having to remember whether the gun is stabilized or not.

For each model of tank there is a base per cent plus a die roll for the efficiency of the crew. This will give you your base per cent for the vehicle. The efficiency is primarily for PC Gunners, but die rolls can be made for NPC tanks, friendly or enemy. Using the base for NPC tanks will give PCs a better edge in combat and make a more exciting game.

The low rating for many Soviet tanks is a reflection of their emphasis on quantity over quality. These are not purely subjective evaluations, but rest on results from previous encounters in the Arab-Israeli wars.

#### TO HIT

For most shots you will subtract one number based on the range, size of target, and speed of the target. The MD will tell you the range either arbitrarily determining or rolling 1d20 and multiplying by 100 yards. (Close targets may have been hidden by irregularities in the terrain.)

SIZE depends on the orientation of the target towards you. FRONT/REAR means the vehicle is aimed more or less directly at you. SIDE means the side is toward you. OBLIQUE means that the vehicle is coming at an angle so that about as much front (or rear) is exposed as side is exposed. Use whichever face of the vehicle is the MOST exposed to determine which size target to use.

SPEED is divided into two categories: normal movement (including stationary) and high speed movement (as in an assault or evasive action).

All of these are included on the MAIN GUN TABLE. Under each range for a particular sized target are two numbers, the first is for normal speed, the second for high speed. This number is subtracted from the main gun base per cent and 2d100 is rolled against the total. A roll below is a hit; a roll above is a miss.

#### MISSED SHOTS

For each missed shot, add +5 to the next roll as the crew "finds the range" and adjusts.

When a round misses its intended target, it is possible to determine where it hits by using the 10 x 10 RECON grid. Each square represents a 20 yard (or meter) x 20 yard area, roll 2d100 to determine which square it lands in. This is usually not necessary unless there are infantry units accompanying the tank which might be in the square. For effects of anti-tank shells on infantry see TANK vs. INFANTRY.

#### FACTORS AFFECTING ACCURACY:

##### HULL DOWN

If a tank is using a natural or man-made terrain feature to hide behind with only its turret exposed, this is considered Hull Down. Since only the turret is exposed, triple the to hit modifier. For a hit, roll 3d10 on hit location (which will give you a turret location) for damage.

Soviet armor is not designed for the terrain or the climate of the Middle East. Besides being small, cramped, hot, slow to fire, and; their main gun will only depress 4° compared to most Israeli tanks which depress 10°. This difference will allow Israeli tanks to fire from a true hull down position with only the turret exposed, but Soviet armor must advance high enough over its terrain feature as to be treated fully exposed when it fires.

##### SMOKE (SEE Observation)

#### PENETRATING/NON-PENETRATING HITS

When a round strikes a target, you should compare the penetration value of the round with the Minimum Penetration Value of the target.

If the Penetration Value of the round is GREATER, then the round penetrates. Roll 2d100 on the PENETRATING HIT TABLE to determine the damage.

For NPC tanks, it is simpler to roll damage for crew members according to the type of round rather than record all of the vehicle damage which may not affect play.

If MINIMUM Penetration Value of the vehicle is greater than the Penetration Value of the round fired, the hit does not penetrate into the vehicle; instead, it explodes on the outside of the tank. Roll 2d100 on the NON-PENETRATING HIT TABLE. Considerable damage to the tank and crew (if exposed) may result from non-penetrating hits.

The Hit Location Tables are organized by the angle of the target: FRONT/REAR, SIDE, and OBLIQUE FRONT/REAR. The location of damage is affected by where the round hits; so use the table for the orientation you used to determine SIZE.

## TANK AMMO

All tanks will begin with 40 rounds, and it is up to the players/crew to determine what combination of each they will carry. For each model of tank there is a listing of which types of rounds are available.

There are two categories of tank rounds: Exploding and Non-Exploding. The major difference in play is how much damage each does to the crew (exploding does more). There are numerous subcategories of ammo which may be of interest, but do not have too much effect on play other than their Penetration Value and damage to crews.

## Types of EXPLODING ROUNDS:

APHE - Armor-Piercing High Explosives are older style rounds that have a hard tip to crack their way through and high explosive charge to do the damage.

HEAT - High Explosive Anti-Tank are shaped charges that bum a small hole through the armor and then spray their burning material into the interior.

HEP/HESH - High Explosive Plastic or High Explosive Squash Heads (the British name) detonate on contact and knock material off the inside of the tank wall ("spalling") which acts as shrapnel against the crew and systems.

## Types of NON-EXPLODING ROUNDS:

APDS/APFSDS - Armor Piercing Discarding Sabot/Armor Piercing Fin Stabilized Discarding Sabot (also called Sub-caliber ammo and Long Rod Penetrators) are shells that shed their outer packing when fired so that a small, very concentrated mass hits and penetrates by momentum rather than explosives. In effect it is like shooting a small iron rod through the wall of a tank, which may ricochet inside and do considerable damage or penetrate through both sides. The smoothbore Soviet guns from T-62 up require fins to stabilize the shell, rather than the riflings (grooves in the barrel) used to cause the gyroscopic spin in most Western tanks or rifles.

AP/HVAP - Armor Piercing/High Velocity Armor Piercing rounds are non-exploding and attempt to batter their way through the armor.

## CREW DAMAGE

Since PCs are the most important part of a tank, when damage is inflicted we are most concerned with its effect on them. Any penetrating round will inflict crew damage, 2d100 if EXPLODING or 4d10 if NON-EXPLODING. As a simple system, the PC in the area penetrated takes the damage (not all PCs in the track). A penetration of the driving compartment injures the driver. A penetration of the fighting compartment affects

only the loader. A penetration of the turret affects both the TC and Gunner.

This system applied to NPC tanks will help to determine how effective it is.

## HIT LOCATION

When the MD describes the hits on an armored vehicle, he should bear in mind what the crew would actually be aware of.

On non-penetrating hits, the crew may not be aware of the damage until they look or stop and examine damage. A non-exploding round will sound like a tremendous sledgehammer has hit the tank. An exploding round will have the characteristic explosion and cloud of smoke, dust, and rocks (depending on where it hits, of course).

When a track breaks, the tank will slew to that side as the good track continues to move the off-side forward.

When a road wheel is lost or part of the suspension is damaged, the ride may appear to be rougher (which may be hard to tell in very rough terrain anyway) and the vehicle will lurch as the vehicle crests a ridge and the missing part fails to support the vehicle.

On penetrating hits, the crew may not notice that a system is out until they attempt to use it; only superficial damage might be done to a mechanism externally while doing sufficient internal damage to cause it to malfunction at a critical time.

## COOK OFFS/BAIL OUTS

Any penetrating exploding round has a 2% chance ("01-02" on 2d100) of igniting the ammo supply and totalling the tank. The normally affected crew will roll damage. If they are still alive, they may make an Ag roll to "Bail Out" or hastily exit through the nearest hatch.

Any PC delayed, (failed his roll or helping someone out) takes 3d10 damage from the fire and must make a second roll. Anyone delaying to grab weapons, food, etc. Likewise takes damage. Wear it or lose it!

## TANK vs. INFANTRY

In tank vs. infantry combat, tanks have three things going for them: their invulnerability to small arms fire, their main gun, and their machineguns.

Tanks may be invulnerable to small arms fire when they are buttoned up, but this limits their field of view. Generally, at least the commander will have his head out and can be fired upon as "prone" if the tank is moving or "kneeling" if the tank is stationary. The same is true of the driver or gunner if they are

exposed at a hatch. Use the upper body hit location chart for hits.

The main gun is limited mainly by the ammo that the tank is carrying. Tanks are designed to fight other tanks, and the ammo they carry is designed for piercing armor, not for high shrapnel output. Non-exploding shells will have the effect of a grenade (due more to bits of terrain knocked up than the penetrator). Exploding shells will be equal to a 81mm mortar.

Straight High Explosive shells (not useful against armor) will have their normal 105mm killing effect.

The most effective round is the APERS or anti-personnel round. This fires over 5,000 flechettes (darts) which saturate an area, for game purposes 10 yards wide by 15 deep, fatal to anyone in the area not behind solid cover. The darts will penetrate soft skin vehicles such as jeeps and trucks, but not APCs.

**MACHINEGUNS** - All tanks will have at least two MGs, a .50 caliber MG on the turret which the commander can fire, and a 7.62mm mounted next to the main gun inside the turret (coaxially mounted). The commanders .50 can be fired in a 120° arc from his hatch, if he is exposed. The coax can be fired in a 60° arc along the line of the main gun. Both have normal MG rates of fire and damage. When the tank is stationary the .50 gets a +10 tripod bonus from its mount. Some older Soviet tanks still have a bow MG near the driver, which can be fired by the loader if he isn't busy with the main gun; these are noted on the vehicle descriptions.

The major infantry weapons against tanks are listed and described under Anti-Tank Weapons. Infantry can try to climb aboard and drop grenades down unlatched hatches or to roll grenades on treads to break them. For game purposes, if a PC can get a grenade on a tread it will break when the grenade detonates.

#### ARMORED PERSONNEL CARRIERS (APCs)

The IDF has used surplus World War II half-tracks as armored personnel carriers finding them adequate in their role of transporting mechanized infantry in support of tank operations. Although under armored (easily penetrated by .50 calibers and assault rifles within 50 meters) and with no overhead armor to protect against airburst of artillery, their availability, dependability, and speed in the rough terrain has made them indispensable on the limited Israeli defense budget.

In the 1973 Yom Kippur War numbers of U.S. made M-113 armored personnel carriers began to make their appearance. While up-armored in comparison to the M-3 halftrack, the M-113 is still under armored for the close assault mode; they also can be penetrated by .50s.

The Zahal M-113 contains a crew of two, the driver and TC (who operates a .50 from the commanders hatch). Some M-113s have mounts for two MAG 7.62mm machineguns; but the commander's .50 and the 7.62s lack the armor of the Vietnam ACAV configuration.

In 'Nam, mounted troops preferred to ride on top of the M-113 to minimize the risk of injury from mines. In the Middle East, the IDF prefers to ride inboard with top hatches open (due to the heat and lack of firing ports on the M-113).

It takes one CR to mount an APC either by climbing over the treads on the side or through the loading ramp on the back. It takes one CR for the ramp to drop, either to offload or take on a squad. During bailouts it takes one CR to climb over the side and drop to the ground.

Men firing over the sides of the M-113 or from the hatches of Soviet APCs can be fired on with small arms as "prone" due to target size. Men firing from a moving APC use the "marksman running" modifier from being bounced around in a moving track. Grenades can be thrown in hatches; treat as "door-size space" (this will include the more numerous but small hatches on Soviet APCs).

If an APC is hit by a .50 in the fighting compartment where the squad would be, there is a 5% chance per man inboard that someone will be injured; total the per cents and roll against on 2d100. If the roll indicates that a man is hit, number the men and roll 1d10 to identify who will take the damage. For damage roll 2d100-20 (minimum of one) damage by a penetrating .50 round.

If an ATGM, RPG, or tank main gun round penetrates, roll 1d10 or 1d20 against the number of men to determine how many are injured and roll separately to determine who is injured.

Damage will be 2d100 for exploding warheads and 4d10 for non-exploding warheads. Roll separately for each injured man. You can roll hit location using the flak jacket system (SEE GEAR) which will reduce damage for some men and include critical hits into the risk from anti-armor weapons.

APCs have a 5% chance of exploding when hit by an anti-armor round on 2d100. PCs can roll Ag to successfully bailout before

taking additional damage from exploding fuel or ammo. If they fail their roll or hesitate to pickup additional gear (other than what is on them when the track is hit), they will take 3d10 bum damage before exiting on the second roll; should they fail this second roll they will

take 2d100 damage.

APCs without turrets will treat turret hits locations as impacting on treads and running gear. Two hits on wheels on Soviet APCs on the same side of an APC will immobilize the vehicle.

#### M-51Hv "Super Sherman"/"Isherman"

Upgunned, uparmored WW II M-4 Sherman

CREW: 4

GUN: 105 short breech

RANGE: 1200m

AMMO: HE (3); HEAT (6)

ARMOR CLASS: 3

Used through 1967 Six Day War



#### AMX-113

French main battle tank, used through 1967, coaxially mounted .50 MG

CREW: 4

GUN: 105 short breech

RANGE: 1200m

AMMO: HE (3); HEAT (6)

ARMOR CLASS: 3



#### Centurion

CREW: 4

GUN: 105

RANGE: 1800m

AMMO: HE(6); HEAT (6); APDS(7); HESH(6)

ARMOR CLASS: Front (6); elsewhere (3)



#### M-48 series (U.S.) 1967+

CREW: 4

GUN: 105

RANGE: 1800m

AMMO: HE(6); HEAT(6); APDS(7); HEP(6)

ARMOR CLASS: Front (5); elsewhere (3)



#### M-60 series, U.S., 1973+

CREW: 4

MAIN GUN: 105

RANGE: 1800m

AMMO: HE(6); HEAT(6); APDS(7); HEP(6)

ARMOR CLASS: Front(6); elsewhere (3)



#### Merkava "Chariot" Israeli design, post 1973

CREW: 4

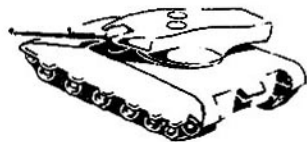
MAIN GUN: 105

RANGE: 1800m

AMMO: HE(6); HEAT(6); APDS(7); HEP(6)

Can carry up to a squad in rear, engine is mounted in front. Hatch on rear allows men and pallets of ammo to enter in the shield of the tanks armor.

ARMOR CLASS: Front (6); elsewhere (5)





M-3 White Half-track, WW II design, still in use.

CREW: 2 plus 11 men

ARMOR CLASS: Front (2); elsewhere (1)

1 = small arms at less than 50m (not SMGs)

2 = .50 at less than 500m



M-113 U.S. armored personnel carrier (APC)  
1973-

CREW: 2 plus 11 men

ARMOR CLASS: Front (3); sides (1)

1 = small arms at less than 50m (not SMGs)

T-34/85 USSR, used through 1967, mainly in hull down defensive positions.

CREW: 5 (bow 7.62MG)

MAIN GUN: 85mm

RANGE: 900m

RATE OF FIRE: 3/minute

AMMO: HE(3); HEAT(6); HVAP(4)

ARMOR CLASS: Front (4); elsewhere (3)

Su-100, USSR, used up to 1967

CREW: 4

GUN: 100mm (rifled)

RANGE: 1000m

RATE OF FIRE: 3/minute

AMMO: HE(4); HEAT(7)

T-54/-55, USSR, 1967+, some manned by the PLO in Lebanon in 1982. Tanks captured by Israel in 1967 and used are designated the T-1967.

CREW: 4

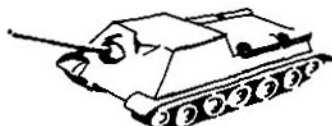
GUN: 100mm

RANGE: 1000m

RATE OF FIRE: 3/minute

AMMO: HE(4); HEAT(7); APHE(5); APDS(6)

ARMOR CLASS: Front (4); elsewhere (3)



T-62, USSR, 1973+

CREW: 4

GUN: 115mm (smoothbore)

RANGE: 1500m

AMMO: HE(5); HVAP(5); HEAT(5); APDS(6)

ARMOR CLASS: Front(5); elsewhere(3)

RATE OF FIRE: 4/minute

T-72, USSR, 1982+, tended to "brew up" in Lebanon when hit with low crew survivability. Use of autoloader reduced crew.

CREW: 3 (uses autoloader)

GUN: 125mm (smoothbore)

RANGE: 2000m

RATE OF FIRE: 8/minute(maximum)



PT-76 USSR, amphibious recon light tank;  
1973+; may have AT-3 ATGM mounted atop  
main gun, post 1973.

CREW: 3

GUN: 76mm

RANGE: 800m

RATE OF FIRE: 4/minute

AMMO: HE(3); HEAT(4); HVAP(3)

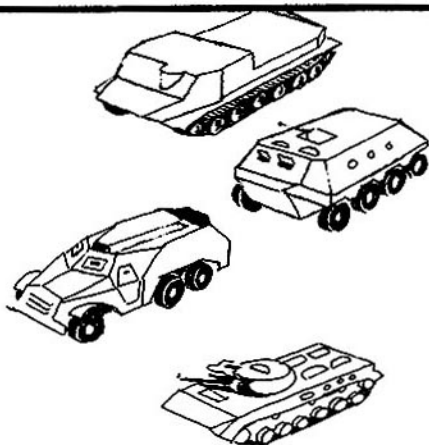


**BTR-50, USSR, 1967:**  
**CREW:** 2 plus 20 troops  
**ARMOR CLASS:** Front (3); elsewhere (2)

**BTR-60, USSR, 1967:**  
**CREW:** 2 plus 14 troops  
**ARMOR CLASS:** Front (3); elsewhere (2)

**BTR-152: USSR, 1967:**  
**CREW:** 2 plus 17 troops  
**ARMOR CLASS:** Front(3); elsewhere(2)

**BMP, USSR, 1973+**  
**CREW:** 3 plus 8 troops  
**GUN:** 73mm  
**RANGE:** 700m  
**AMMO:** HEAT(6)  
**RATE OF FIRE:** 3/minute  
**ARMOR CLASS:** Front(3); elsewhere(2)



#### ANTI-TANK WEAPONS

In the following section on the various modern anti-tank weapons, there are illustrations to indicate what the weapon looks like and there are a series of statistics.

**BASE.** For each weapon a base per cent plus a crew efficiency bonus is given. This represents the combat efficiency of this type of weapon (with each crew or PC gunner rolling the bonus, rather than a normal 2d100). The base plus bonus is the NPC crew or PC gunner's Base Per Cent Effectiveness with that weapon.

Anti-tank weapons that "hit" will use the same hit location tables as tank main guns.

**MINIMUM RANGE.** This applies to anti-tank guided missiles (ATGMs) which will travel a certain distance down range before the gunner will have the missile under control. Shots within this minimum range are treated as "firing blind" with only a two percent chance of hitting the target.

**MAXIMUM RANGE.** This represents the maximum effective range that a weapon has a reasonable chance of hitting its target.

**BACKBLAST.** The launch of most anti-tank weapons involves a backblast of gases or smoke which will stir up debris (dust, rock, or leaves). The amount of backblast is given in AI, either there is enough to mark a launch for which a normal AI is rolled against, or the amount is fairly low so AI is reduced since there is less chance of detecting this weapons being launched.

**ARMOR PENETRATION.** As with the tank main gun system, the maximum armor that a weapon can penetrate is given in an armor penetration factor, which needs only to be compared to the target's armor factor to determine if it is larger and will penetrate or

is smaller and will use the non-penetrating hit table.

**CREW:** This is how many men are necessary to transport and/or fire the weapon. Most larger Israeli systems are jeep mounted; most Arab systems are still hand carried.

**SET-UP TIME:** This is the time required for a system to be assembled before it can be launched. For some systems two times are listed, vehicle mounted (which only requires stopping the vehicle and bringing the weapon to bear -- aiming it at the target) and hand carried which requires setting up the tripod and other preparations.

**RELOAD TIME:** This is the number of CRs that it takes to reload a weapon. For anti-tank guided missiles (ATGMs) this will be the delay after the weapon has hit (or missed one target) before it can be fired at another; for ATGMs you must also include the following delay.

**FLIGHT TIME:** This is the velocity of the missile towards its target, or range covered per CR. This will tell you how many CRs the crew of an armored vehicle has to fire suppression fire against the ATGM crew and/or how many CRs they have to take evasive action to throw off the targeting of the ATGM gunner or find a terrain feature to take cover behind. The number of CRs equals range to target divided by range per CR of flight time.

#### ANTI-TANK WEAPONS

The Golan and Sinai have been critical testing grounds for many of the state of the art anti-tank devices. While U.S. armor in Vietnam encountered numerous RPGs and recoilless rifles, the Israelis encountered the more sophisticated and deadly anti-tank guided missiles (ATGMs).

In 1967 during the Six Day War Israeli tankers encountered Soviet-supplied RPG-2s and AT-1 "Snapper" or Israeli designated "Schmell", neither of which was used by well trained crews; so, the Israeli tankers tended to underestimate the risk presented by them.

In 1973 Israeli tankers were, therefore, ill prepared for the devastating fire of well trained and courageous Arab anti-tank crews. The effectiveness of these new weapons wreaked considerable havoc on Israeli tanks who countered with cavalry type charges against them. Gradually, Israeli crews learned to keep Alert for the characteristic plume of sand or smoke when an anti-tank weapon is fired, and to counter this attack by high speed evasive maneuvers and suppression fire on the launch position. (This will be included for play under "SUPPRESSION FIRE".)

Anti-tank weapons can be divided into four categories: rockets, recoilless rifles, missiles, and guns. Although Soviet units still use some anti-tank guns (cannons), these have not played a significant role in the Middle East and are not included. Instead, we will cover the three most common weapons used.

**ANTI-TANK ROCKETS:** This class includes the LAW (or LAAW, Marine designation Light Anti-tank Assault Weapon), the RPG-2 in 1967, the RPG-7 in 1973- (the plus indicating in use since that date particularly by Arab terrorists), and the 3.5" Rocket Launcher or "bazooka" which was used up to the 1973 war but was rapidly replaced with more current weapons (the TOW and DRAGON, discussed later).

Anti-tank rockets are aimed at a target, but are not guided after launch. They tend to be single-shot weapons, but both the RPGs and the 3.5 can be reloaded. "RPG Kids" in Lebanon can be seen with a launcher with one in the tube and a canvas rucksack with three reloads; they are intentionally young to play on the Israeli reluctance to fire on women and children under the "Purity of Arms" doctrine.

The LAW/RPG system still retains two tables one for TARGET and one for MARKSMAN. The range categories have been greatly increased for the more open terrain, which has meant reducing the modifiers. The basic 2d100 system remains for individually fired weapons. This also holds true for the marksman table; however, the later weapons discussed are normally tripod fired and are all assumed to be braced.

**RECOILLESS RIFLES.** Recoilless rifles fall under the rocket category in the sense that they are single-shot weapons that are aimed at their target, but not guided after launch.

These weapons are normally crew-served weapons requiring at least three men to transport them and to load, aim, and fire. Due to this distinction, they are treated differently from other rockets.

Recoilless rifles fire their rockets from a vented tube so there is little recoil (as with the true rockets); however, their launch tube is rifled, having lands and grooves to impart a gyroscopically stabilizing spin to the rounds, rather than the use of fins as on rockets.

While still in use in 1973, the Soviet 57mm and 75mm RRs and the U.S. 106mm RR have been de-emphasized as anti-tank weapons in favor of RPGs and ATGMs. Recoilless Rifles (RRs) are used more as light artillery, rather than as anti-tank weapons. Jeep mounted 106s were flown to Entebbe in 1976 in a multi-purpose role (anti-armor, anti-personnel with flechettes, and anti-fortifications), this multi-purpose mode could not be met by the TOW on jeeps. So, these weapons still have their uses, and the Israelis are reluctant to waste any weapon.

Soviet RRs tend to be hand carried (including tripod and reloads); Israeli tend to be mounted on vehicles for higher mobility (jeeps or M-113 APCs). Anti-tank weapons cannot be fired from moving vehicles with any greater accuracy than "firing blind" (basic 2% chance to hit) however, they have a much shorter set-up time to be brought into action.

One advantage the 106 has over its Soviet counterparts is the use of a semi-automatic .50 caliber spotting rifle firing tracers with the same trajectory as the 106. This allows the 106 to fire tracers at a target and determine if the weapon is ranged in without firing the more expensive (and time consuming reloading) 106 round. In play, the spotting rifle can be fired using the table for Recoilless Rifles. It can fire up to three .50 rounds per CR (semi-automatic rate of fire); if one strikes the target the PCs can immediately fire the 106 (without having to roll to hit).

When using the 106 there is a +5 per round, either .50 or 106, fired at a target added to each successive roll (round fired) at the same target as the crew finds the range of the target and gets progressively closer.

Flechettes (for the 106 only) fire hundreds of nail-like darts from a disintegrating case that will cover a game area of 10 yards wide by 15 yards long, doing 2d100+20 damage to anyone exposed in that area. As an area fire weapon there is a +10 to hit in the general area determined by the gunner.

**ANTI-TANK GUIDED MISSILES (ATGMs)**  
Anti-tank guided missiles are guided to their

targets through course corrections sent through fine hair-like wires that spool out of the rocket as it flies towards its target. The early ATGMs required coordination of both the rocket and the target; more modern weapons allow the gunner to concentrate only on the target and the rocket will be course corrected to it. This simplified system is calculated into the base per cents of the different systems. The most modern systems use laser designators which can be shined on an object and the rocket will home-in on the laser's reflected light. Although extremely accurate in clear air, their success is greatly degraded (reduced) by dust, smoke, and rain. The designators can be identified by crews with special filters and fire suppression fire which may disrupt the signal on the target as the forward observer takes cover, and the ATGM will go out of control. There are still some bugs in the system.

ATGMs have a minimum range which represents the time between launch and the time the gunner has control over the system. Inside this minimum range the ATGMs are ineffective. ("firing blind" to hit).

Beyond their maximum range, ATGMs have expended their control wire and are out of control. Generally, they have also used all of their propellant and are about to nose into the ground.

ATGMs are the most deadly infantry weapon against armor. They have long ranges (which is, of course, limited by terrain, you have to see it to hit it). They are capable of penetrating any armor in existence, including the new M-1 Abrams and T-80 with Chobham composite armor. Also, these weapons can be mounted on choppers which can "pop up" from behind trees or other terrain features, launch their ATGM, control it to impact (up to 6 CR) and then skedaddle.

At night the rocket "flare" of ATGMs will make them clearly defined as targets.

**SUPPRESSION FIRE.** Since ATGM crews must maintain control over the missile after it is launched, any fire on the crew that causes them to take cover for self-protection will also cause them to lose control of the ATGM.

Any small arms fire that is a hit on the ATGM gunner, or is within 10 of a hit will be close enough to make an NPC take cover and lose control. PCs may roll against their AI to determine whether they stay at their post (make their AI roll) or dive for cover (fail their AI roll). AI in this new sense represents concentration on their task rather than any courage or bravery implied.

Any tank round, rocket, recoilless rifle, rifle grenade, etc. that lands within 20 yards of the ATGM will cause suppression (or an AI roll by PCs).

### 3.5" ROCKET LAUNCHER "Bazooka"

sometimes has shield on side for backblast.

BASE: 45+3d10

MINIMUM/MAXIMUM RANGE: -/300

BACKBLAST: AI

ARMOR PENETRATION: 4

CREW: 2

SET UP TIME: 1 CR/Round

FLIGHT TIME: 1000m/CR

### LIGHT ANTI-TANK WEAPON, "LAW"

Disposable, one shot anti-tank weapon.

MINIMUM/MAXIMUM RANGE: 5/200

BACKBLAST: AI

ARMOR PENETRATION: 3

CREW: 1

SET UP TIME: 1 CR

FLIGHT TIME: 1/2 CR

### ROCKET PROPELLED GRENADE, RPG-2/-7

RPG-2 (1967), RPG-7 (1973+)

BASE: 35+3d10

BACKBLAST: AI

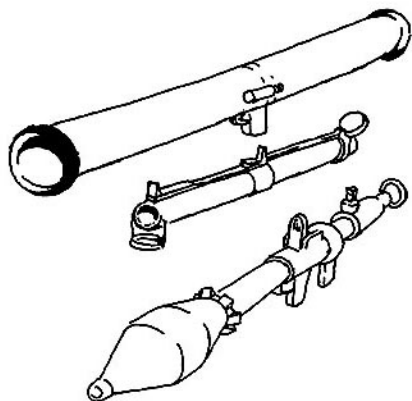
ARMOR PENETRATION: RPG-2(3)/-7(4)

CREW: 1-2

SET UP TIME: 1 CR

FLIGHT TIME: 1 CR

MINIMUM/MAXIMUM RANGE: 5/500



B-300, Israeli produced anti-tank weapon, reloadable with screw in canisters of reloads 1982+ (currently under consideration by U.S.)

BASE: 2d100

MINIMUM/MAXIMUM RANGE: 5/500

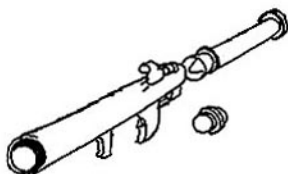
BACKBLAST: A1

ARMOR PENETRATION: 4

CREW: 2

SET UP TIME: 1 CR

FLIGHT TIME: 1 CR



57mm RECOILLESS RIFLE (1967). Soviet issue anti-tank weapon.

BASE: 45+3d10

MINIMUM/MAXIMUM RANGE: -/1500m

BACKBLAST: A1

ARMOR PENETRATION: 2

CREW: 3

SET UP TIME: 3 CR; RELOAD TIME: 1 CR

FLIGHT TIME: 1 CR

75mm RECOILLESS RIFLE (1967). Soviet issue.

BASE: 45 + 3d10

MINIMUM/MAXIMUM RANGE: -/1000m

BACKBLAST: A1

ARMOR PENETRATION: 5

CREW: 3

SET UP TIME: 3 CR; RELOAD TIME: 1 CR

FLIGHT TIME: 1 CR



106mm RECOILLESS RIFLE: U.S. issue with .50 spotting rifle (SEE Anti-tank Weapons)

BASE: 50 + 3d10

MINIMUM/MAXIMUM RANGE: 10/1100m

BACKBLAST: A1

ARMOR PENETRATION: 6

CREW: 3

SET UP TIME: Tripod 3 CR, Jeep 1 CR

RELOAD TIME: 1 CR



AT-1 (1967)/AT-3 (1973+) "Snapper/Schmeil"

Wire guided anti-tank missile, capable of being launched from man portable packs, the "suitcase sagger" or from vehicles, PT-76 and BMP (not as common in the Mid-East).

BASE: 25+3d10/45+3d10

MIN/MAX RANGE: 300/1500; 300/2000

BACKBLAST: A1-10

ARMOR PENETRATION: 4; 5

CREW: 1 - 2

SET UP TIME: 3 CR

FLIGHT TIME: 750m/CR

DRAGON (1973 only) U.S. supplied, but not currently in inventory of Zahaf.

BASE: 50+4d10

MIN/MAX RANGE: 300/1000

BACKBLAST: A1-10

ARMOR PENETRATION: 6

CREW: 1

SET UP TIME: 2 CR

FLIGHT TIME: 500m/CR



TUBE LAUNCHED, OPTICALLY TRACKED, WIRE GUIDED (TOW), ATGM. U.S. supplied during 1973 war and highly effective.

BASE: 50+4d10

MIN/MAX RANGE: 65/3000+

BACKBLAST: A1

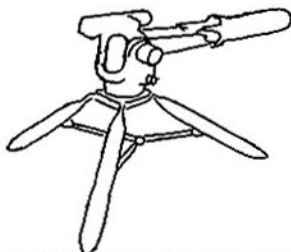
CREW: 3

SET UP TIME: Tripod 6 CR, Jeep 1 CR

RELOAD TIME: 1 CR after impact

FLIGHT TIME: 1000m/CR

ARMOR PENETRATION: 8(1973), 15(Current)



## Tables:

TRAIT	PC's BONUS	
	Rate of Fire (Loader's Ag)	Main Gun Accuracy (Gunner's AI)
01-54	5	5
55-64	6	10
65-74	7	15
75-84	8	20
85-94	9	25
95-99	10	30

### LANGUAGE TABLE (1d10)

- 1 English
- 2 French
- 3 German
- 4 Italian
- 5 Greek
- 6 "Scandinavian"
- 7 Spanish
- 8 Russian
- 9-10 Arabic

### LANGUAGE PROFICIENCY (2d100)

- 01-67 Understand/speak with accent
- 68-100 No detectable accent



## ISRAELI NAMES (1d20)

	MALE	FEMALE	FAMILY
1	Avraham	Nehama	Allon
2	Ariel	Miriam	Avneri
3	David	Sophia	Elazar
4	Haim	Naomi	Elimeleh
5	Abrasha	Rivkah	Eshkol
6	Eliahu	Nourit	Gavish
7	Yosef	Bruria	Gozit
8	Israel	Daphna	Gur
9	Yehoshua	Shula	Hod
10	Meir	Phirah	Hoffi
11	Levi	Tirza	Malik
12	Mordechai	Dafu	Peled
13	Shimon	Yael	Rabin
14	Simcha	Aliza	Reshef
15	Shlomo	Emma	Shalev
16	Uri	Sara	Shoam
17	Yakov	Ruth	Tamir
18	Yigal	Esther	Teveth
19	Yizhaz	Yoffa	Yaffe
20	Zeev	Cela	Zamir

## ARAB NAMES (1d20)

	MALE	FEMALE	FAMILY
1	Abdel	Amina	Abdessa lam
2	Abdul	Fadwa	Alati
3	Ahmed	Fotma	A'Soada
4	Aly	Fayiza	Fahmy
5	Aziz	Hannah	Fawzi
6	Bahi	Lamis	Gamasy
7	Belaid	Leila	Gohar
8	Hafez	Maysa	Ismail
9	Haled	Mouna	Jalloud
10	Hassan	Muzna	Khalil
11	Izz	Nadia	Mukhtar
12	Mohammed	Naifa	Nofal
13	Mustafa	Nimra	Rifai
14	Rifa	Randa	Riyad
15	Sadoon	Reita	Shakkour
16	Said	Saida	Shazli
17	Wasfi	Saliah	Sherif
18	Yusif	Samiya	Tlas
19	Zeid	Sumana	Yamaha
20	Zuhair	Wajida	Zoyyat

## COMBINED OPERATIONS TABLE (1d20)

MANEUVER	
01-04	Advancing ahead of schedule
05-14	Advancing on schedule
15-17	Slight delay* (1d10)
18-19	Moderate delay* (1d10+5)
20	Stalled by terrain (1d10+10)

\*Amount of delay depends on mission plan

FIRE	
01	Enemy eliminated
02-04	Enemy taking heavy casualties <sup>1</sup>
05-08	Enemy taking moderate casualties <sup>2</sup>
09-14	Enemy taking light casualties <sup>3</sup>
15-17	Friendlies taking light casualties
18-19	Friendlies taking moderate casualties
20	Friendlies taking heavy casualties <sup>4</sup>

<sup>1</sup>40% chance enemy will rout  
<sup>2</sup>20% chance enemy will rout  
<sup>3</sup>10% chance enemy will rout  
<sup>4</sup>10% chance unit is eliminated

## REACTION TABLE (1d10)

01-04	Sentry suspicious (slight delay)
05-07	Local alert (moderate delay)
08-09	Enemy search (stalled)
10	Firefight

## TERRAIN: SINAI (1d20)

- 1 Soft sand (impassable to vehicles)
- 2 Flat, rocky, waist high brush
- 3 Dunes (1d10+5'), 250m apart
- 4 Sharply undulating dunes 3-5' high
- 5 Vehicle dust cloud on horizon
- 6 Dunes, 6-8', 100m apart
- 7 Rocky ridgeline
- 8 Wide sand, gradual undulations
- 9 Flat, rocky, man-high brush
- 10 Wide flat sand plain
- 11 Narrow waddi (gorge)
- 12 Bare, rocky hills
- 13 Deep canyon, impassable
- 14 Flat, dry cracked soil
- 15 Limestone hills
- 16\* Muddy waddi (1/2 movement)
- 17\* Passable waddi
- 18\* Waterhole/well
- 19\* Enemy unit
- 20 Civilian Contact/Village Tables

## GOLAN

- 1 Conical hill up to 200' high
- 2 Wide valley with clumps of dwarf oak trees
- 3 Rocky hills with scattered evergreen trees
- 4 Fields with lava rock fences
- 5 Narrow valley between rocky hills
- 6 Small foothills, brush and grass
- 7 Hill covered with waist-high scrub brush
- 8 Hill covered with rocks and dry grass
- 9 Hill with small stunted trees
- 10 Hill with old fortifications
- 11 Valley with waist-high brush
- 12 Valley with boulders (man to house size)
- 13 Valley with stream and trees
- 14 Village
- 15 Narrow waddi, impassable to vehicles
- 16\* Orchard on hills
- 17\* Cave(s) in hill/cliff
- 18\* Crossroads in valley
- 19\* ENEMY UNIT
- 20 CIVILIAN CONTACT

\*In heavy contact areas, a roll of 16-19 indicates an enemy unit in the area

## CIVILIAN CONTACTS (1d20):

- 1 Old man leading donkey loaded with twigs and straw
- 2 Woman balancing watercan on head
- 3 Boy herding goats
- 4 Old woman and little girl walking
- 5 Two old men arguing, woman walking quietly behind
- 6 Young boys playing or hiding
- 7 Young girls collecting firewood
- 8 Man returning from working in city carrying baggage
- 9 Trader on foot with bags of goods
- 10 Young woman at stone well
- 11 Young boy on lookout
- 12 Old car crammed with people
- 13 Two young boys riding donkey
- 14 Man riding donkey, woman walking
- 15 Nomads on move (camels & goats)
- 16 Old/young woman looking for stray
- 17 Man & boy hunting with shotgun
- 18 Old bus crowded with civilians
- 19 Man on bicycle
- 20 Old pickup truck with civilians

## ANIMALS (1d20):

- 1 Fox
- 2 Jackal
- 3 Gazelle(s)
- 4 Wild boar
- 5 Wild cat
- 6 Palestine viper (poisonous snake)
- 7 Hawk
- 8 Goats
- 9 Stray camel
- 10 Scorpion (5 pt sting if fail A1 & A2 to avoid)
- 11 Stray goat
- 12 Non-poisonous snake
- 13 Hovering buzzards
- 14 Chameleon making "clicking" noise
- 15 Tortoise (small)
- 16 Antelope
- 17 Nest of spiders
- 18 Large ant mound
- 19 Swarm of locusts (large grasshoppers)
- 20 Dead animal carcass

## ENEMY CONTACTS (2d100/2):

## Squad on patrol (8-12) with SKS or AKMs

- |                                     |   |
|-------------------------------------|---|
| 1 Moving towards you                | 37 Barbed wire (old or new)               |
| 2 Moving away                       | 38 Anti-personnel minefield (old or new)  |
| 3 Crossing your line of march       | 39 Anti-tank minefield (old or new)       |
| 4 Digging foxholes                  | 40 Concrete pillboxes/sandbagged bunkers  |
| 5 Lying in ambush (your direction)  | 41 SAM/Radar installation (trucks)        |
| 6 Lying in ambush (other direction) | 42 Headquarters (tents, vehicles, guards) |
| 7 Eating                            | 43 Truck park/supply dump                 |
| 8 Praying to Mecca                  | 44 Listening post/ forward foxhole        |
| 9 Setting out mines                 | 45 Artillery position                     |
| 10 Anti-tank ambush - RPGs          | 46 3 parallel trenches                    |
| 11 Anti-tank ambush - AT-3s         | 47 Numerous foxholes                      |
|                                     | 48 Anti-tank position, recoilless rifle   |
|                                     | 49 Anti-tank position, RPG                |
|                                     | 50 Anti-tank position, Sappers AT-3       |

## Vehicles:

- |                                      |
|--------------------------------------|
| 12 Jeep, officer and driver          |
| 13 Jeeps, " " "                      |
| 14 Jeep with bodyguard               |
| 15 Truck with men                    |
| 16 Jeep and truck                    |
| 17 1d10/2 APCs                       |
| 18 5+1d10 APCs                       |
| 19 Truck convoy, supplies            |
| 20 Truck convoy, men                 |
| 21 Truck convoy, SAMs                |
| 22 2 tanks escorting trucks          |
| 23 2 PT-76s escorting trucks         |
| 24 Bulldozing hull down positions    |
| 25 Tank with engine problem          |
| 26 Tank with infantry support        |
| 27 2 tanks with 1d10+2 APCs          |
| 28 Several tanks/APCs parked         |
| 29 Tank in hull down position        |
| 30 Tank with broken tread            |
| 31 3 tanks, crews looking at map     |
| 32 Large column of tanks advancing   |
| 33 3 tanks in column                 |
| 34 3 tanks on line, advancing slowly |
| 35 Tank in camouflaged position      |
| 36 Jet flying overhead/helicopter    |

## Men in positions (1d20):

- |  |
|--|
| 1 Talking                                |
| 2 Cooking                                |
| 3 Praying to Mecca                       |
| 4 Cleaning weapon                        |
| 5 Reading newspaper                      |
| 6 Writing letter home                    |
| 7 Playing Oh-wah-ree (game with pebbles) |
| 8 Listening to portable radio            |
| 9 On guard duty                          |
| 10 Smoking                               |
| 11 Arguing loudly                        |
| 12 Laughing/joking                       |
| 13 Tending fire                          |
| 14 Sleeping                              |
| 15 Making coffee                         |
| 16 Digging                               |
| 17 Planting mines                        |
| 18 Stringing barbed wire                 |
| 19 Filling sandbags                      |
| 20 Poised and alert                      |

## VILLAGE (1d10):

- 1 Rubble
- 2 Single deserted house
- 3 3-4 deserted houses
- 4 6-12 deserted houses
- 5 Single house
- 6 3-4 houses and outbuildings
- 7 6-12 houses
- 8 12-20 houses
- 9 Small town
- 10 Bedouin camp (tents)

## VILLAGERS:

- 1 Woman cooking or dressing goat
  - 2 Woman nursing infant/singing
  - 3 Woman sewing/making yam
  - 4 Women setting up/taking down tents or repairing house
  - 5 Woman milking goat
  - 6 Woman combing child's hair
  - 7 Woman scolding child
  - 8 Women gossiping
  - 9 Women working in garden/unloading camels
  - 10 Women serving coffee to men
- 
- 1 Men drinking coffee
  - 2 Men discussing horse for sale
  - 3 Looking at sick livestock
  - 4 Cleaning rifle
  - 5 Knife throwing contest
  - 6 Wrestling competition
  - 7 Repairing saddle
  - 8 Listening to portable radio
  - 9 Breaking wild horse
  - 10 Sitting talking
- 
- 1 Children playing tag
  - 2 Collecting dried camel's dung/firewood
  - 3 Carrying household goods
  - 4 Boys watching men
  - 5 Girls cleaning
  - 6 Feeding livestock
  - 7 Herding livestock
  - 8 Girls watching women
  - 9 Girl helping mother
  - 10 Toddlers around mother

## TERRORIST NEGOTIATION TABLE (1d20):

- 1 Move deadline up 1d10 hours
- 2 Move deadline back 1d10 hours
- 3 Demand to talk with TV
- 4 Demand food
- 5 Demand weapons
- 6 Demand escape route (car, plane, etc.)
- 7 Demand to talk with "friendly" diplomat
- 8 State have boobytrapped area
- 9 Threaten to shoot hostage each hour until demands are met
- 10 Shoot hostage
- 11 Refuse to negotiate (temporarily)
- 12 Deliver political harangue
- 13 Deliver political harangue
- 14 Deliver political harangue
- 15 Demand face-to-face meeting with negotiator
- 16 Take negotiator hostage
- 17 Demand to leave with hostages
- 18 Demand doctor for hostages
- 19 Make additional demands before they will consider releasing hostages
- 20 Release a hostage

## Hostage released (1d10):

- 1 Pregnant woman about to deliver
- 2 Man with heart attack
- 3 Diabetic child needing insulin
- 4 Hysterical woman
- 5 Man hyperventilating
- 6 Man injured during takeover
- 7 Man with bleeding ulcer
- 8 Child with appendicitis
- 9 Hostage with high fever
- 10 As sign of "good will"

## ROCKETS (LAWS, RPGs, 3.5", B-300) : SIZE

(Stationary/Hi-speed)  
 LARGE MEDIUM SMALL  
 SIDE 0/-5 -5/-10 -10/-15

OBLIQUE -5/-10 -10/-15 -15/-20

FRONT/REAR -10/-10 -15/-20 -20/-25

MARKSMAN RANGE (yards)  
 10-25 26-50 51-75 76-150 151-300 301-500

Braced +5 0 -5 -10 -15 -20

Kneeling 0 -5 -10 -15 -20 -25

Standing -5 -10 -15 -20 -25 -30

## RECOILLESS RIFLES (57mm, 75mm, 106mm, &amp; spotting rifle)

RANGE (Stationary/Hi-speed)  
 SIDE 0-300 301-600 601-900 901-1200 1201-1500  
 -5/-10 -10/-15 -20/-25 -20/-25 -25/-30

OBLIQUE -10/-15 -15/-20 -25/-30 -25/-30 -30/-35

FRONT/REAR -15/-15 -20/-25 -30/-35 -30/-35 -35/-40

## ATGMs (TOW, Dragon, AT-1, &amp; AT-3)

SIDE 0-500 501-1000 1001-1500 1501-3000  
 0/-5 -5/-10 -10/-15 -15/-20

OBLIQUE -5/-10 -10/-15 -15/-20 -20/-25

FRONT/REAR -10/-15 -15/-20 -20/-25 -25/-30

ARMOR TO HIT TABLE  
 RANGE (m)

(Stationary/Hi-speed)  
 VIEW 0-500 501-1000 1001-1500 1500+  
 FRONT/REAR -5/-15 -10/-20 -20/-30 -30/-40

OBLIQUE -3/-13 -7/-17 -15/-25 -20/-30

SIDE 0/-10 -5/-15 -10/-20 -15/-25

+5 for each successive round fired at same target

## GENERAL ARMOR HIT LOCATION (2d100)

	FRONT/REAR	OBLIQUE	SIDE
01-30	Turret	Turret	Turret
31-50	Driver/Engine*	Driver/Engine*	Engine
51-60	Driver/Engine*	Engine/Driver*	Driver
61-70	Driver/Engine*	Fighting Comp.	Fighting
71-100	Treads	Treads	Treads

\*First word indicates front shot; second if a rear shot  
 (per cents are different on OBLIQUE shots)

## NON-PENETRATING HIT LOCATION (1d10)

TURRET	DRIVER	ENGINE/FIGHT.	TREAD
1 External stowage	Rear view mirrors	External stowage	Tread breaks
2 TC's MG	Near vision block <sup>1</sup>	+ Piggy backs	Breaks in 1d10 CRs
3 Range finder	Middle " " <sup>1</sup>	(troops)	Breaks in 1d10+5 CRs
4 IR/Searchlight	Far " " <sup>1</sup>	Hull Damage	Breaks in 2d10 CRs
5 TC's vision blocks*	White Driving Lights	Hull Damage <sub>2</sub>	Breaks in 2d10+5 CRs
6 Gunners " " *	IR Driving Lights	Hull Damage <sub>2</sub>	Bogie (-1 Sp Fac)
7 Traverse Main Gun	White & IR Lights	Idler	Bogie (-1 Sp Fac)
8 Coax MG	Hatch jammed	Bogie/road wheel	Bogie (-2 Sp Fac)
9 Radio aerials	Hull damage	Bogie/road wheel	Bogie (-2 Sp Fac)
10 Main Gun out	Hull damage	Suspension	Minor damage

\*Reduce "buttoned up" AI -15

<sup>1</sup>Reduce "buttoned up" AI rolls -15 on that side, field of view

<sup>2</sup>Soviet external fuel tank "brews up" (explodes)

## PENETRATING HIT LOCATION (1d10)\*

(Use Non-penetrating "tread" hits)

DRIVER	TURRET	FIGHTING	ENGINE
1 Driver	TC wounded	Loader	Radiator leak <sup>11</sup>
2 Clutch left <sup>1</sup>	Gunner wounded	Gun breech <sup>7</sup>	Oil leak <sup>11</sup>
3 Clutch right <sup>1</sup>	Radio out	Small arms <sup>8</sup>	Fuel leak <sup>11</sup>
4 Transmission left <sup>1</sup>	Night device	Shell sputtering <sup>9</sup>	Fuel leak <sup>11</sup>
5 Transmission right <sup>1</sup>	Gun elevation <sup>3</sup>	Minor damage	Fuel leak <sup>11</sup>
6 Throttle left <sup>1</sup>	Gun traverse <sup>4</sup>	10% ammo <sup>10</sup>	Minor damage
7 Throttle right <sup>1</sup>	Turret traverse <sup>5</sup>	20% ammo <sup>10</sup>	Engine stops
8 Night Obs Device	Coax MG	30% ammo <sup>10</sup>	Engine stops in 1d10 CRs
9 Intercom out <sup>2</sup>	Range finder <sup>6</sup>	40% ammo <sup>10</sup>	Engine stops in 1d10+5 CRs
10 Dud wedged in armor	Minor damage	50% ammo <sup>10</sup>	Engine running irregularly <sup>12</sup>

\*NON-EXPLODING: "01-02" on 2d100 critical; otherwise, 4d10 damage

EXPLODING: "01-02" on 2d100 critical; otherwise, 2d100-20 damage

<sup>1</sup>Reduce maximum speed by one Speed Factor for each condition

<sup>2</sup>TC can indicate only left, right, go, stop by tapping on shoulder with feet

<sup>3</sup>-10 to hit

<sup>4</sup>-15 to hit

<sup>5</sup>Double turret traverse time

<sup>6</sup>-15 to hit

<sup>7</sup>Halve Rate of Fire until normal maintenance/repair procedure followed

<sup>8</sup>Any small arms not on PCs are unusable

<sup>9</sup>10% chance of exploding, 1d10/2 CRs to throw out or pour canteen on

<sup>10</sup>Of remaining ammo damaged and unusable

<sup>11</sup>Requires Driver AI to notice gauges; will stall in 1d20+5 MINUTES

<sup>12</sup>Engine has 20% chance of stalling during any high speed maneuver



# SAMs

SMALL ARMS HIT LOCATION		
	LOCATION	OUTCOME
2d100 01-10	Instrumentation	Disables
11-20	Pilot	Crash
21-30	Navigator/bombardier	Disables
31-50	Engine	Crash
51-60	Fuel	Explodes
61-70	Tail elevators	Disables
71-80	Rudder (elevators - bottom)	Disables
81-100	Ordnance	Explodes

SMALL ARMS (CHOPPERS)		
	Side/Bottom	Result
2d100 01-10	Instrumentation	Disables
11-20	Pilot	Crash
21-30	Copilot	Disables
31-60	Passenger	Wound
61-70	Tail boom	Disables
71-80	Tail rotor	Crash
81-90	Turbine	Explodes
91-100	Blade controls	Crash
2d100 01-30	Front Instrumentation	Result Disables
31-56	Pilot	Crash
57-82	Copilot	Disables
83-90	Turbine	Explodes
91-100	Blade controls	Crash

SAM TO HIT TABLE		
RANGE	JETS	CHOPPERS
Two miles	-10	-15
One mile	-5	-10
Within 1/2 mile	0	-5

SAM HITS\* ON FIXED WINGS  
01-50 Disabled

51-75 Crashes, pilot bails out

76-100 EXPLODES

\*Choppers treat as explodes if hit

## BASIC VEHICLE DATA

ON COMING CLASS (ROLL 1d10)	CORNERING MAX	ACCELERATION(mph)	MAX SPEED	MASS	MAX DAMAGE
1 TRUCK*	30	+5*	60	15	660
1 JEEP	40	+10	70	4	420
2 LIMOUSINE	45	+10	75	9	600
3-5 ECONOMY CAR	40	+15	85	5	480
6-8 FAMILY SEDAN	45	+15	90	7	540
9 MOTORCYCLE	45	+20	105	1	180
with Sidecar	40	+15	85	1.5	240
10 SPORTSCAR	50	+20	110	6	570

\*For calculating TRUCK Speed Factors use 10mph = 1 Speed Factor

MANEUVERS		CONTROL ROLL MODIFIERS ROAD CONDITIONS			
Swerve	5	Pavement	0	Normal	0
Curve	5	Rock/Rough Pavement	1	Windshield Out	1
Multiple Curves # x 5		Dirt	2	Back Tire Flat	2
Cut Off	10	Sand	3	Front Tire Flat	3
Sideswipe	10	Gravel	4	Driver Wounded	2
Ram	15	Rain/Mud	4	Sideswiped	15
Reverse	10	Oil	5	Cut Off	15
Stall	10	Ice	6	Rammed	20
90° Turn	15				
Bootlegger	20				

## OUT OF CONTROL TABLE

POINTS MISSED CONTROL ROLL BY	SPEED FACTOR			EFFECT
	1	2	3	
1-15	1-13	1-10	Fishtailing on shoulder <sup>1</sup>	
16-30	14-25	11-20	Fishtailing into opposite lane <sup>2</sup>	
31-45	26-38	21-30	Undercompensate, cross opposite lane <sup>3</sup> SKID POSSIBLE	
46-60	39-50	31-40	Overcompensate, off road on near side <sup>1</sup>	
61-80	51-70	41-60	Car rolls once per Speed Factor above Cornering Max. <sup>4</sup>	
81+	71+	61+	Car rolls once per Speed Factor & begins to burn in 3 CR <sup>4</sup>	

<sup>1</sup> Damage due to parked cars

<sup>2</sup> Damage due to on-coming vehicle

<sup>3</sup> Damage due to on-coming vehicle or skid

<sup>4</sup> Vehicle takes 2d100 x 2 damage per roll. Characters take 2d10 damage per roll. On 01-34 (2d100) character is thrown out of vehicle (roll once per character per car roll); still takes 2d10 that roll.

ON COMING TRAFFIC			
	CITY	HIGHWAY/SUBURB	ISOLATED
DAY	30	20	10
NIGHT	15	10	05

## CRASH DAMAGE TABLE

## POINTS

50	Headlight out, body damage
100	Windshield Shatters
200	Steering damaged (add "rammed" to all subsequent Control Rolls), characters take 1d10 damage each.
250	Flat tire (reduces max. Speed Factor) each character takes 1d10+5 damage.
300	Brakes will fail in 2d10 CR, each character takes 2d10 damage.
350	Transmission damage, vehicle can't accelerate above 1 Speed Factor each character takes 2d10+5 damage.
400	Radiator damaged, will overheat and stop in 1d10+5 CR, each character takes 3d10 damage.
450	Engine damaged, vehicle stops in 1d10 CR, each character takes 3d10+5
500	Fuel tank ruptures, vehicle stops in 1d10-1 CR, each character 4d10.

## CRASH: BUILDINGS

OBJECT	DAMAGE	PENETRATION
Concrete/Big tree	400	300
Brick Wall/Med. tree	300	200
Wood/Small tree	150	100
Roadside post/Pedestrian*	50	-

\*PCs take 1/10 total damage (MASS x mph + 50) against Strength when hit by a vehicle.

## SMALL ARMS COMBAT: TARGET DESIGNATION

TARGET	MODIFIER
Driver/Passenger (front or rear shot) <sup>1</sup>	Prone
Driver/Passenger (side shot) <sup>2</sup>	Kneeling
Tire (front or rear shot) <sup>3</sup>	Prone
Tire (side shot) <sup>3</sup>	Kneeling
Radiator (front only) <sup>4</sup>	Kneeling
Gas Tank (rear only) <sup>5</sup>	Prone
Engine (side only) <sup>6</sup>	Kneeling
Motorcycle driver/Passenger <sup>1</sup>	Kneeling

<sup>1</sup> If vehicle speeds match and not maneuvering (Wounded driver must make A1 roll or Control Roll.

<sup>2</sup> Damage through car body reduced -5

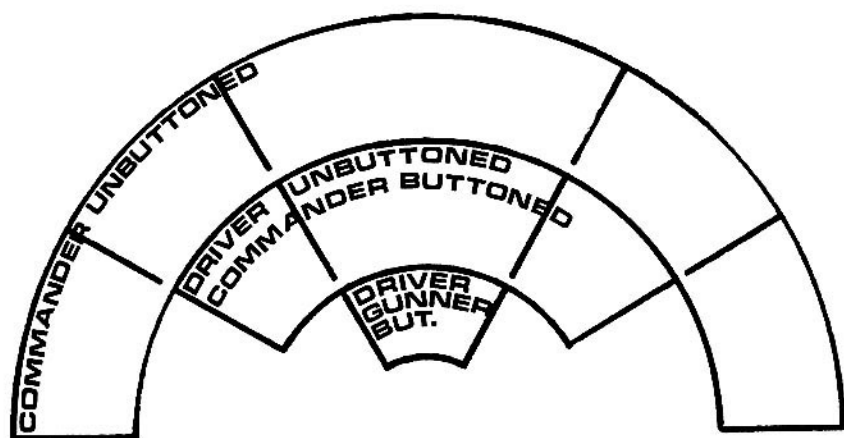
<sup>3</sup> Max Speed -1 Speed Factor, do Control Roll

<sup>4</sup> Vehicle will overheat and stop in 1d10+2 CR

<sup>5</sup> On "1" on 1d10 car explodes, all other rolls are how many CR till car stops.

<sup>6</sup> Vehicle stops in 1d10 CR.

Vehicle	Coming Max			JUMP TABLE			Max. Damage		
	Acc.	Max.	Mass	Vehicle	Distance/5 mph	Damage/5 mph		Shocks Take	Max. Damage
M-51Hv	15	5	30	33	990				
AMX-113	16	8	40	27	1080	10'	15	35	180
Centurion	8	4	20	52	1560	7'	30	65	240
M-48	12	6	30	47	1410	8'	50	85	570
M-60	12	6	30	48	1440	7'	40	65	420
Merkhava	15	5	30	58	1740	7'	50	75	480
M-113	16	8	40	11	880	6'	60	125	540
T-34/85	20	4	32	32	1024	5'	70	105	600
Su-100	20	4	32	31	1000	4'	80	145	660
PT-76	10	5	25	14	700				
T-54/55	15	5	30	36	1080				
T-62	12	6	30	37	1100				
T-72	15	10	45	40	1500				
BTR-50	10	5	25	15	750				
BTR-60	20	10	50	10	750				
BTR-152	15	10	45	9	600				
BMP	18	9	45	12	810				
ROUGH TERRAIN (@ Sp Factor 2 or 3 on "01 or 02" on 2d100 after missed Ag roll)									
1-6	Flat tire (reduce 1 Speed Factor; spare = 3 min.; patch = 6 min.)								
7	Axel (reduced to Speed Factor 1)								
8	Stuck (sand, snow, or mud)/Bottom out (dirt); 1d10 min. to clear								
9	Steering (Car Condition +5 on all subsequent Control Rolls)								
10	Transmission (max. Speed Factor 2)								
CONDITIONS									
	Unbuttoned	0							
	Buttoned	2							
	Driver Wounded	2							
	Road Wheel Damaged	2							



BASE PER CENT BY VEHICLE

AMX-13	30	PT-76	20
Centurion	55	Su-100	25
Merkava	60	T-54/-55	35
M-48A5	60	T-62	50
M-51 Hv	25	T-72	55
M-60A3	60		

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