

# MODERN EQUIPMENT HANDBOOK

## PART ONE

Equipment specifications and points  
values for Challenger 2000 Rules



By Bob Conner & Bruce Rea-Taylor

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# **MODERN EQUIPMENT HANDBOOK**

**SECOND EDITION**

## **PART ONE**

As I began collating the vast amount of information for the new handbook it became obvious that to include all the information and equipment I wanted would no longer be possible in one book, therefore I decided to split it into two.

The equipment listed in volume one is:-

Tanks  
Tank Destroyers  
Infantry and Fire Support Vehicles  
Reconnaissance Vehicles  
Anti-Tank Guided Weapons

In each of the above cases I have also included sections on vehicles in current service with other countries.

In addition this book also contains the Points System for Challenger 2000, Additions to the rules as a result of new equipment and also a few rule corrections and amendments, which I am happy to say are very few.

Volume two contains all details on Artillery, Mortars, Rocket systems, and also Infantry weapons.



# Introduction

It has taken me far longer than I had anticipated to complete this first volume of the revised Modern Equipment Handbook. The majority of the delay has been caused by the lack of accurate information and also the vast amount of conflicting information that has been published to-date.

I had anticipated that all I had to do was obtain the latest Janes Armour and Artillery and simply convert the information in it to Challenger values. But anyone familiar with the Janes publications will know that the Armour and Artillery book does not now contain all the information and to find out about the various sub-systems etc. you have to have the AFV Systems book, the Retro Fit Systems book, the Infantry Weapons book, the Land Based Air Defence book and now even the Ammunition Handbook, each of which costs over £160.

To accurately research the life of a particular vehicle such as the Leopard 1 or the M60 you have to refer to the earlier edition that provides the information regarding its initial production status and then follow this through the intervening volumes to determine the modifications and up-grades it went through over the years. You must then take each sub-system detailed in the vehicles description and cross-reference it with the manufactures specifications for that system in one of the other books. All this is very time consuming and is even more so if the system is an old one and no longer detailed in the current books.

There were two main difficulties that I encountered, the first was a lack of details as to when systems, or in some cases vehicles, came into service which is the reason for the number of question marks against the in service dates. A particular problem in this respect is the APFSDS round where only a few entries actually gave a date when it went into production. The second problem was the complete lack of information on modern tank armours, which is only to be expected as no manufacturer/government wants to make such information available unless you are spending millions and buying the bits inside it as well. However, after reading a number of books on tank design it became apparent that there is a direct relationship between the distribution of a vehicles armour and its weight. Using this basic principle and knowing the vehicles combat weight, physical shape, approximate year of manufacture and a general description of the armour type, I was able to devise a system which gave acceptable results for all vehicles. You will find however, that the new vehicle armour values are slightly higher than those for Challenger II.

I must also point out that I firmly believe that there will, in most cases, be considerable differences between a vehicle in its peace time role and the same vehicle when it goes to war. It is always amazing how quickly items of prototype equipment can be produced and fitted when there is a real threat of conflict. This was proved in the Gulf War when Challenger I's were fitted with passive side armour, ERA blocks under the crew compartment and laser detectors. Therefore, where an item of equipment in Janes was listed as OPTIONAL or MAY BE FITTED then I have assumed that it would most likely be fitted in time of war.

Finally I must state that much of the information and details contained in the Handbook are based on my interpretation of the information available but there will always be those who, faced with the same information, will come to a different conclusion. Please therefore feel free to use these lists as a guide and to alter details which your own research proves to be inaccurate or you feel has not been interpreted correctly. Please also feel free to contact me on any such ideas or queries you may have.

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# General Notes

As I stated in Challenger 2000 I have assumed that the Warsaw Pact is still in existence and that is the reason why you will find references to it and the Soviets throughout this book. I have done this so that players can continue to field armies that are based on two different philosophies ie. the Soviet use of mass, and relatively low technology equipment, against the West's smaller armies with more sophisticated equipment.

Having said this however, I could not ignore the fact that many of the former Warpact countries, and to a lesser extent the Russians, are turning to Western companies for help in improving and even developing their own equipment. This is welcomed by these companies as, with a few exceptions such as the UK Royal Ordnance, they have been unsuccessful in breaking into the very lucrative market that exists for the Retro-Fit and Up-Grading of Soviet and Chinese equipment.

## TANKS

It is worth noting that nearly all Western tank producing countries, including South Africa, have spent considerable sums of money in designing Retro-Fit and Up-Grading packages for Soviet and Chinese designed equipment, with so far, little return on their investment. However, with the inevitable decline in new tank production the retro-fit market may well be the only way that tank manufacturers can survive. We will therefore continue to see Western companies teaming up with those in the East to produce 'Westernised' versions of their existing equipment and also new designs. Present examples of this co-operation being the testing of Swedish CV-9040 turrets on Polish MT-LB chassis and French T1 equipment being fitted to Czech tanks.

Another point worth noting is that in 1994 there are only 7 or 8 countries actually producing new tanks, these are UK (Challenger II), France (Leclerc), China (Type-90), Soviet (T-90), Italy (Areté) along with South Korea and Japan and also possibly Israel with their proposed Merkava 4. I know that I have missed out Germany and the US, the reason being that the German new build tank line was closed in 1993 (but will most likely be opened again for the Swedish order) and the line for the M1A2 will also close when the Saudi and Kuwaiti orders are completed leaving the US only producing up-graded vehicles from existing stocks.

There are many countries producing tanks such as India, Pakistan, Egypt and Warpact countries who are building new tanks but all of them are older models produced under licence. India and Brazil have both produced new tank designs but in the case of the latter they have not found a buyer during the 10 years since they were designed and in the former case, that of the Ajun, there is considerable doubt as to whether it will ever go into production.

The Peace Dividend is very much a two edged sword, on the one hand it has reduced the possibility of World conflict to negligible proportions and on the other has reduced the need for a large army that continually demanded ever more new technology and equipment in order to remain one step ahead of its known enemy. The present decline in new tank design and building may well be reversed early in the next century if the proposed new technology tank weapons such as the electro-thermal guns, finally leave their test beds and become viable weapon systems. If they do not then perhaps we will see, after prolonged Retro-Fit treatment, the death of the King of the battlefield?

## INFANTRY VEHICLES

Manufacturers of other AFVs ie. APCs and MICVs etc. are in somewhat of a better position than their MBT contemporaries as their products are far more adaptable to change and, more important, are more adaptable to customer requirements and also cost considerably less. This is due to the relatively modern trend of designing a basic vehicle chassis and then offering the customer any number of variations in engine, systems and weapon fits to suit his own needs. This has proved a problem to me in producing this book as it would have been impossible to include all these variations. I therefore decided to include only those variations which have been accepted for service or those with weapon fits that have been fully tested on the prototypes. Obviously there will inevitably be some vehicles entering service that I have not covered but it should be relatively easy for players to obtain their game specifications by using those of the basic APC format and adding the variations in armament from the points system.

## PRESENT TRENDS

The present trend is to increase the weapon size on vehicles and we may well see MICVs mounting automatic weapons of 45mm calibre using telescoped ammunition and also guns of 140mmS calibre mounted on MBTs. Both these weapons are, at the moment, still in their development stage and in the case of the 140mm an agreement has been reached between the UK, France, Germany and the USA to jointly develop the weapon system while the UK and France are involved in the telescoped ammunition development for the 45mm autocannon. An alternative, and more cost effective, solution to increasing the size of a tanks gun has been put forward by the UK Royal Ordnance with their Improved Weapon System. This is a High Pressure 105mm gun, that along with its new ammunition, is claimed to have a superior performance to that of the earlier 120mmS guns. Therefore, if the same technology is applied to 120mm guns could a similar performance be obtained to that of the developing 140mm but at a much lower cost.

In the case of the 140mm gun there is some doubt as to whether it will be placed into production or if it will remain only a test bed weapon that will be overtaken by new weapon concepts and technology.

Although you will find that I have included penetration values for the Telescoped 45mm and 140mmS ammunition they are very much estimated values deduced from very little published information and they may, in the future, prove to be inaccurate.

One area in which vast amounts of money and research is being channelled is the future Reconnaissance Vehicle Concept. No longer will the Recce be just a 'high speed, find the enemy and radio back' vehicle but will be a purpose designed vehicle equipped with sophisticated electronics and sensors that will enable it to supply commanders with real time information and pictures of enemy locations and movements.

## ABBREVIATIONS USED

A	After a calibre indicates an Autocannon	IRD	Infra-Red Driving
ACRV	Armoured Command & Recce Vehicle.	IRJ	Infra-Red Jammer.
AFV	Armoured Fighting Vehicle.	Kinetic	Penetrator using Kinetic energy for penetration.
AIFV	Armoured Infantry Fighting Vehicle.	LAV	Light Assault Vehicle.
AL	Auto-Loader.	LD	Laser Designated or Laser Detector.
AP	Armour piercing.	L/D	Limited Depression.
APC	Armoured Personnel Carrier.	LGP	Low Ground Pressure.
APDS	Armour Piercing Discarding Sabot.	LLTV	Low Light Television.
APFSDS	Armour Piercing Fin Stabilised Discarding Sabot	M	Turret Mounted Mortar.
APHE	Armour Piercing High Explosive.	MBT	Main Battle Tank.
AMD	Anti-Missile Defence.	MG	Machine Gun.
Amp	Amphibious.	MICV	Mechanised Infantry Combat Vehicle.
AR	Active Radar.	MM	Millimetric Radar.
ATG	Anti-Tank Gun.	MR	Mine Resistant.
ATGW	Anti-Tank Guided Weapon.	NBC	Nuclear, Biological & Chemical.
CG	Chain Gun.	O.Top	Open Topped Vehicle.
(DU)	Depleted Uranium.	Recce	Reconnaissance Vehicle
DZB	Dozer Blade	SBG	Smoke Battlefield Generator.
EFP	Explosive Formed Penetrator.	SD	Smoke Discharger.
ERA	Explosive Reactive Armour.	SD?(A)	Smoke discharger with automatic response.
FL	Flare Launcher.	SG	Smoke Generator.
GM	Gun Mortar	SIR	Scanning Infra-Red.
GSR	Ground Surveillance Radar.	Ta	Tandem Warhead.
HEAT	High Explosive Anti-Tank	TI	Thermal Imager.
HESH	High Explosive Squash Head.	TID	Thermal Imager for driver.
HMG	Heavy Machine Gun.	TOW	Tube Launched Optically Tracked Wire Guided.
HP	High Pressure.	Tr	Tracked
IINF	Image Intensifying Night Fighting.	HVAP	High Velocity Armour Piercing.
IID	Image Intensifying Driving	tu	Turret Mounted
IRNF	Infra-Red Night Fighting.	V	Vertical Attack or Overfly.



## KEY TO LISTS

The following equipment lists are layed out in a similar way to that of the previous Modern Handbook so those familiar with it will find them easy to follow. However, I have made some changes so I do suggest that you go through the following section first.

Note:- In the ammunition section I have listed only the main anti-tank rounds carried as virtually all guns had or now have the ability to fire most other rounds such as smoke, HE and cannister.

### TANKS

**A** { **C** } { **D** } { **E** } { **F** }  
MEGGA I 120mmSHP(L/D). AL. APFSDS(DU),Heat,Hesh. RAMBO ATGW (6). c20mmA,pHMG,fbMG.

**B** { **G** } { **H** } { **I** } { **J** } { **K** }  
(1993) AFC. S2. 12c3E / 5c2 / 3c1 / 3TE. MR. A B D. HM. SD2(A),SG. FL. LD,AR

{ **L** } { **M** } { **N** }  
IINF,IID. Sn. DZB. NBC. 49t. 56km/hr.

#### A NAME

This gives the vehicles name and/or designation which in the case of many Soviet vehicles includes the NATO designations.

#### B IN SERVICE DATE

The inservice date which, in a number of cases, is my estimate as to when the first units were equipped with the vehicle and not the date when the first production vehicles left the factory.

NP after the date indicates that the vehicle had not entered production by the date give.

? after the date means that this is my estimated in service date.

#### C MAIN WEAPON - 120mmSHP(L/D). AL.

120mm = Calibre of the gun. If there is an 'f' in front of it this indicates that the gun is fixed or has limited traverse.

S = Indicates that the gun is Smooth Bore. If no 'S' then the gun is rifled.

HP = High Pressure gun. If replaced by Lt this indicates that the gun is light.

(L/D) = Gun has limited depression.

AL. = Gun is fed by an auto-loader.

#### D AMMUNITION - APFSDS(DU),Heat,Hesh.

APFSDS = Main anti-tank round is Armour Piercing Fin Stabilized Discarding Sabot.

(DU) = This indicates that the above round has a Depleted Uranium penetrator.

Heat = High Explosive Ant-Tank round with 'chemical' warhead.

Hesh\* = High Explosive Squash Head round.

APDS\* = Armour Peircing Discarding Sabot round

\* These rounds are used as an example only as they can only be fired from rifled guns.

Other rounds listed are all variations of the basic AP (armour piercing) rounds.

#### E ANTI-TANK MISSILES CARRIED. - RAMBO I ATGW (6).

RAMBO I = Missiles name or NATO designation.

ATGW(6) = Indicates that 6 missiles are carried and that they are fired from the main weapon.

If shown as (2 + 6) then this indicates that the missiles are fired from their own launcher and the 2 missiles are ready to fire and 6 more reloads are carried inside the vehicle.

#### **F Secondary Armament - c20mmA,pHMG,fbMG.**

- c20mmA** = A 20mm Auto-cannon is co-axial to the main armament. Note that normally these weapons cannot be fired if the main armament is fired.
- pHMG** = The Heavy Machine Gun of 12.7mm calibre is pintle mounted on top of the vehicle.
- fbMG** = A fixed bow Machine Gun is fitted, normally fired by the driver or co-driver.

##### **Others can be:-**

- Cu** = Indicates the weapon is mounted on a Cupola and is normally fired from under armour.
- tu** = Indicates the weapon is mounted in its own turret.
- Tw** = Indicates that two weapons of the same calibre are mounted together.
- r** = Indicates that the weapon is mounted at the rear of the vehicle.
- (CG)** = Indicates a Chain Gun.
- G** = Gatling gun.

#### **G FIRE CONTROL AND WEAPON STABILIZATION. - AFC. S2.**

- AFC** = Advanced Fire Control. **Others can be:-**
- VFC** = Vertronic Fire Control.      **OFC** = Optical Fire Control.
- IFC** = Improved Fire Control.      **RFC** = Ranging Machine Gun.
- LFC** = Laser Fire Control.      **BFC** = Basic Fire Control.
- S2** = Main gun is stabilized. **Other can be:-**
- S1** = Early or partial stabilization or **S3** = Fully stabilized.

#### **H ARMOUR - 12c3E / 5c2 / 3c1 / 3TE. MR.**

- 12c3E** = Basic front armour value is 12 with level 3 Composite armour. E indicates that first generation ERA (Explosive Reactive Armour) is fitted to that aspect.
- 5c2** = Basic side armour value is 5 with level 2 Composite armour.
- 3c1** = Basic rear armour value of 3 with level 1 Composite armour. The basic value of 3 is also the armour value of the vehicles rear deck and turret top.
- 3TE** = The vehicles basic turret top armour value is 3. The 'T' indicates that the turret has additional armour against chemical weapons. E indicates that part of the turret top is covered by ERA.
- MR** = The vehicle is Mine Resistant.

If an 's' is substituted for the 'c' in the armour values then this indicates that the armour is SPACED and not composite. Some vehicles are now fitted with drivers TI giving them a good chance of spotting mines so I have classed them as MR even though they do not have actual anti-mine defences.

#### **I VEHICLE SIZE - B A D.**

- B** = Vehicles front and rear aspect size.
- A** = Vehicles side aspect size.
- D** = Vehicles hull-down aspect size.

#### **J VEHICLES MOBILITY - HM**

- HM** = indicates that the vehicle is High Mobility.
- Other can be:-**
- SM** = Standard Mobility. **VHM** = Very High Mobility. **LGP** = A Low Ground Pressure vehicle.

#### **K DEFENSIVE AIDS AND SENSORS - SD2(A),SG. FL. LD,AR.**

- SD2** = Smoke dischargers fitted loaded with IR defeating smoke grenades.
- (A)** = Dischargers can be fire automatically if the vehicles sensors detect the threat.
- SG** = Vehicle has an engine smoke generating capability activated by injecting fuel into the exhaust system. The vehicle is not covered by this smoke unless it reverses into it.
- FL** = Vehicle is fitted with a Flare Launcher.
- LD.** = Vehicle is fitted with Laser Detecting equipment which triggers an alarm if the vehicle is illuminated by a laser beam. Modern detectors are capable of distinguishing between



Lasers used for range measurement and those used for designation, and will indicate the direction the threat is coming from.

AR = Active Radar fitted which is capable of detecting all threats aimed at the vehicle including those from above.

**Others can Be:-**

AMD = Anti-Missile Defence system.

IRJ = Infra-Red Jammer capable of disrupting Infra-red and Thermal sighting equipment.

SD1,3 & 4 = See Points System for details of these Dischargers.

**L NIGHT FIGHTING EQUIPMENT - IINF,IID.**

IINF = Image Intensifier Night Fighting equipment fitted for commander and/or gunner.

IID = Image Intensifier fitted for the driver.

**Others can be:-**

TI = Thermal Imaging.

IRNF = Infra-Red Night Fighting usually incorporating an IR searchlight.

IRD = Infra-Red Driving lights fitted.

LLTV = Low Light Television.

**M OTHER EQUIPMENT - Sn. DZB. NBC.**

Sn = Snorkel or Deep wading equipment fitted.

DZB = Dozerblade fitted as standard equipment.

NBC = Nuclear, Biological and Chemical defence.

**Other can be:-**

Amp = Vehicle is full amphibious. (prep) = Vehicle is amphibious with preparation ie. screen erected.

**N OTHER DATA 49t. 56km/hr.**

49t. = Vehicles combat weight is 49 tonnes (rounded off to the nearest tonne).

56km/hr = Vehicles maximum road speed in normal conditions.

## RECCE and INFANTRY VEHICLE LISTINGS

These follow the same layout as the Tanks with the following additions.

Tr	= Vehicle is tracked.	HTr	= Vehicle is a Half-Track.
4 x 4	= 4 wheel drive vehicle.	6 x 6	= 6 wheel drive vehicle.
8 x 6	= 8 wheel vehicle with 6 wheels driven.	8 x 8	= 8 wheel drive vehicle.
		10 x 10	= 10 wheeled drive vehicle

**SPEED RATING (WHEELED)**

This is given by 3 letters ie. HMF. The first 2 letters are its mobility either VH (very high), HM (high) or MM (medium). The third letter is its speed rating either F (fast), M (medium) or S (slow).

Note:- Speed rating for Tracked and Half Tracked vehicles is as detailed in the Tank Section.

2+10 Indicates the number of crew who remain with the vehicle plus the number of troops carried as passengers. If there is no entry of this type then it is assumed that there is only the vehicles crew or that it is a command vehicle where the passengers remain inside.

fps Firing Ports enabling half the element(s) carried to fire from each side of the vehicle.

rhs Roof hatches, as fps but elements firing from the roof. Infantry support weapons carried may be fired from the vehicles roof. However, ATGWs may not be able to fire if the vehicle moves more than a quarter move.

O.Top Vehicle has no armoured roof.

S If 'S' is indicated in the armour values his means that there is no armour on that aspect.

GSR Ground Servillance Radar fitted.

GM Gun Mortar capable of direct and indirect fire.

M Turret mounted mortar.

# TANKS

With the vast array of retro-fit and upgrade packages now available it is, in theory, possible for any tank presently in service to be turned into a Super Tank and be able, again in theory, to fire any ammunition type, have full night fighting ability, fully stabilised turrets and sights, a full range of sensors and defensive systems and armour that will stop anything fired at it. However, the main problem as far as these lists are concerned is that any combination of these system upgrades may be fitted to suit customer requirements.

Unfortunately money, or more accurately the lack of it, does tend to make this problem worse as countries who have in the past purchased new fleets of vehicles are now inclined to upgrade their present vehicles instead and not always buying the full packages offered by the manufacturers.

Please bear in mind when reading this section that some vehicles that are indicated as 'NP' (not in production) may never see service and also that some vehicles listed may, in the future, be fitted with additional equipment or systems different to that indicated.

## ARGENTINA

Tanks in service are the French AMX-13 (FL12 turret), Austrian SK105, US M41 and the German/Argentinian TAM as well as some old M4 Shermans (including the Firefly version), though these may well be in reserve only. The TAM tank was developed in Germany and manufactured in Argentina and its hull was also used as the basis for the VCTP infantry combat vehicle as well as the VCLC multiple rocket launcher vehicle which mounts the Israeli LAR 160 rocket system.

<b>TAM</b> (1978)	105mm. APDS,Heat. cMG, pMG. OFC. S1. 5 / 2s1 / 1. B A D. HM. SD1. IRNF,IRD. Sn. NBC, 30t. 75km/hr. 1985 - Add:- APFSDS.	330pts 350pts
<b>SHERMAN</b> M4A3E8(1968?)	105mmLt. Heat. cMG, pMG. BFC. 4 / 2 / 1. B A D. SM. 32t. 48km/hr.	225pts
<b>AMX-13</b> FL-12 (1970)	105mmLt. AL. Heat. cMG, pMG. LFC. 2 / 1 / 0. B B D. HM. SD1. IRNF,IRD. 15t. 64km/hr.	275pts

## AUSTRIA

Tanks in service are the Austrian SK 105 and the US M60A3. The Austrians began developing their own light tank, the SK 105 Kurassier, in 1965 and is based on the Saurer APC chassis and the French FL-12 turret as fitted to the AMX-13 light tank. The tank has been sold to Argentina (150), Bolivia (34), Morocco (109 - some have been lost in fighting) and Tunisia (54). An A3 version with improved main armament and turret protection has been developed but has not yet entered production.

<b>Kurassier</b> SK-105(1973)	105mm. Heat. cMG. LFC. 3 / 1 / 1. B B D. HM. SD1. IRNF,IRD. NBC. 18t. 70km/hr.	280pts
<b>SK-105 A1/2</b> (1984)	As Kurassier but LFC replaced by IFC, armour is 3s2 / 1 / 1. 19t. Add:- APFSDS and S2.	350pts

## BRAZIL

Light tanks in service are the US M41C, X-1 (re-built US M-3 Stuarts) and the X-1A2 which is a Brazilian development of the X-1. Brazil has no MBTs in service although it has a requirement for around 500. To meet this requirement both Engesa and Bernadini developed, in remarkably short time, the Osorio (EE-T1) and Tamoyo (MB-3) MBTs respectively. As of 1994 neither tank has been accepted or has entered production although both companies have been actively seeking export orders notably in the Middle East. However, it is reported that Brazil is close to signing an order for Soviet T-72S tanks which could be in service by 1995/6.

<b>X-1A1</b> (1973)	90mmLt. Heat. cMG, pHMG. BFC. 3 / 1 / 1. B B D. SM. 17t. 60km/hr.	215pts
<b>X-1A2</b> (1980)	90mmLt. Heat,Hesh. cMG, pHMG. OFC. 3 / 1 / 1. B A D. SM. SD1. 19t. 55km/hr. 1981 - Add:- LFC. IRNF, IRD. 1989 - Add:- APFSDS.	245pts 275pts 280pts
<b>OSORIO</b> (1984 NP)	105mm. APFSDS,Heat,Hesh. cMG, pMG. IFC. S2. 11c2 / 4c1 / 2. B A D. HM. SD1. IINF, IID. 44t. 70km/hr. 1994 NP - If pHMG in place of pMG. AFC in place of IFC. TI in place of IINF. Add:-LD.	480pts 525pts



OSORIO-P2 (1994 NP)	120mmS. APFSDS,Heat. cMG, pMG. IFC. S2. 11c2/ 4c1 / 2. B A D. HM. SD2. TI, IID. LD. 44t. 70km/hr. 1994 NP - If pMG replaced by pHMG. IFC replaced with AFC. Add:- NBC.	560pts 575pts
TAMOYO (1984 NP)	90mm. APFSDS,Heat,Hesh. cHMG, pMG. LFC. S1. 6s2 / 3s3 / 1s1. B A D. HM. SD1. IINF, IID. NBC. 30t. 67km/hr.	395pts
TAMOYO-3 (1988 NP)	105mm. APFSDS,Heat,Hesh. cMG, pMG. IFC. S2. 7c2 / 3c2 / 1c1. B A C. HM. SD1. IINF, IID. 31t. 67km/hr.	445pts
Carro Padrao (1984)	90mm. APFSDS,Heat,Hesh. cMG,pHMG. LFC. 3s2 / 1s2 / 1. B A C. HM. SD1. IRNF. 25t. 70km/hr.	325pts
M41-B	76mm. HVAP,Heat. cMG,pHMG. BFC. 3 / 1 / 1. B A C. HM. Sn. 23t. 72km/hr.	175pts
M41-C	As above but 76mm replaced by:- 90mm. firing Heat,Hesh.	230pts

## CHINA

There is still considerable confusion as to the correct designation of Chinese tanks ie. the Type-80 is also known as the Type-88 and also the Type-69 III. Their latest tank, revealed in 1991, is the Type-90 II which is a real improvement on their previous designs (and adaptations of Soviet equipment), in that it has composite rather than cast armour and a modern fire control. It is also to be licence produced in Pakistan where it is known as the Khalid but once again it is also referred to as the MBT-2000 or the P-90.

The Type-80 MBT, developed in the mid 80s, was an improvement on the earlier T-69s in that it is fitted with a computerised fire control and a rifled 105mm gun (probably produced with Israeli assistance), but without a turret stabilization system which means it cannot engage targets accurately while itself is moving. However, this seems to have been rectified with the introduction of the Type-80 II and the latest development the Type-85 II, the latter being the first Chinese tank to have a welded turret and composite armour.

The Type-79 MBT appears to be very similar to the Type-69 but has a 105mm rifled gun. Some of these tanks in service may well be Type-69s retrofitted with the 105mm gun while others were built as Type-79s.

The Type-69 is the most widely used MBT with about 2,500 being exported as well as its licenced manufacture in Pakistan. However, Thailand, who bought them in 1987 are believed to be unhappy with them and are seeking a buyer so they can replace them with a Western designed tank. In 1988 the Chinese and US entered into an agreement to jointly develop the Jaguar tank for export. This is based on a modified Type-59 chassis with a new turret mounting a 105mm gun, however, due to the problems in 1989 the joint development has stopped and the Chinese are continuing alone while the US company is offering the upgraded package as retro fit kits to Type-59 and T-55 users.

As is the case with the Soviets the Chinese still keep in service/in store their older tanks which range from the IS-2 and T-34/85 of WWII to the more recent Type-59 which itself is a copy of the Soviet T54/55.

Type-90 II (1993 NP)	125mmS(L/D). AL. APFSDS,Heat. cMG, pHMG. IFC. S2. 13c4 / 5s2 / 2. B B D. HM. SD1,SG. IINF, IID. NBC. 48t. 60km/hr.	550pts
Type-85 IIA (1990)	105mm(L/D). APFSDS,Heat,Hesh. cMG, pHMG. IFC. S2. 9c3 / 4s2 / 2. B B D. HM. SD1,SG. IINF, IID. Sn. NBC. 38t. 60km/hr.	475pts
Type-85 IIM (1993)	As Type85-IIA but 125mmS, AL, and armour 10c3 / 4c2 / 2. weight 41t.	510pts
Type-80 (1988)	105mm(L/D). APFSDS,Heat,Hesh. cMG, pHMG. LFC. S1. 8c3 / 3s1 / 2. B A D. HM. SD1,SG. IINF, IID. Sn. NBC. 38t. 58km/hr.	435pts
Type-80 II	As Type-80 but with IFC in place of LFC and S2 stabilization.	450pts
Type-79 (1983)	105mm(L/D). APFSDS,Heat,Hesh. cMG,pHMG. LFC. S1. 8 / 3s1 / 2. B A D. HM. SD1,SG. IRNF,IRD. 38t. 50km/hr.	405pts
Type-69 I (1981)	100mmS(L/D). APDS,Heat. cMG,pHMG,bMG. LFC. 8 / 3 / 1. B A D. SM. SG. IRNF,IRD. NBC. 37t. 50km/hr.	340pts
Type-69 II (1984)	100mm(L/D). APFSDS,Heat. cMG,pHMG,bMG. LFC. S2. 8 / 3s1 / 1. B A D. SM. SG. IRNF,IRD. NBC. 37t. 50km/hr. 1994 - As Type69-II but LFC replaced by IFC.	365pts 375pts
Type-59 (1958)	100mmS(L/D). APDS,Heat. cMG,pHMG,bMG. BFC. 5 / 2 / 1. B B D. SM. SG. Sn. 36t. 50km/hr.	260pts
Type-59 (1985)	100mm(L/D). APFSDS,Heat. cMG,pHMG,bMG. LFC. S2. 8 / 3s2 / 1. B B D. SM. SG. IRNF,IRD. Sn. NBC. 36t. 50km/hr.	375pts
Type-59 II (1984)	as 1985 Type-59 but 100mm gun replaced with 105mm(L/D) rifled gun.	405pts

## TYPE-59 UPGRADES

The Chinese are offering 8 upgrade concepts for their own Type-59s and also suitable for Soviet T54/55s. Each concept upgrades the vehicle in 4 areas thus giving a considerable number of variations available to customers. However, not all of the upgrades have been applied to the Type-59s in Chinese service but the following are the ones that I consider are most likely to be applied to either the Type-59 (1985) or the Type-59 II.

1990? - armour 8c3 / 3c2 / 1.	+25pts
1990? - ERA fitted - 8c3E / 3c2E / 1.	+45pts
1990? - If SD1 added	+5pts
1990? - If IRNF replaced by IINF	+5pts
1990? - If IRNF replaced by LLTV	+15pts

Type-60	76mm(L/D). HVAP,Heat. cMG,pHMG. BFC. 2 / 1 / 0. B A D. SM. SG. Amp.	
PT-76(1958)	14t. 44km/hr.	160pts
Type-63	85mm(L/D). APHE,Heat. cMG,pHMG. BFC. 3 / 1 / 1. B A D. HM. Amp. 19t.	
PT-76(1963)	60km/hr.	180pts
Type-62	85mm(L/D). APHE,Heat. cMG,pHMG. BFC. 4 / 2 / 1. B A D. HM. 21t. 50km/hr.	195pts
(1962)		

## CZECHOSLOVAKIA

Vehicles in service are the T-55 AM2B (built in Czechoslovakia and firing the AT-10 Stabber ATGW), T-72, PT-76 and some old T34/85s in the reserves. The T-72 M2 is an upgraded version of the Soviet T-72B1 with the work being carried out in conjunction with Belgium and France and is now being offered for export.

T-72 M2	125mmS (L/D). AL. APFSDS,HEAT. cMG,pHMG. IFC. S3. 14c4 / 5s2 / 2 / 2T. B A C.	
(1995?)	VHM. SD2?,SG. TI,IID. LD. Sn. NBC. 42t. 60km/hr.	635pts
	If fitted with ERA, armour is 14c4E / 5s2E / 2 / 2T.	655pts

## DENMARK

Tanks in service are the UK Centurion Mk5 and Mk5/2 the German Leopard 1A3 and the US M41.

M41-DK-1	76mm. APFSDS,Heat. cMG,pMG. LFC. 3 / 1s1 / 1. B A D. HM. SD1. TI,IRD. NBC.	
(1986)	25t. 74km/hr.	325pts
	1990 ? - Add:- S2 stabilization.	335pts
CENTURION	105mm. APDS.Hesh. cMG,pHMG. BFC. S2. 8 / 3s1 / 2. B A D. SM. SD1.	
Mk5 (1959)	IRNF,IRD. 51t. 38km/hr.	350pts
	1984 - BFC replaced by LFC and add:- APFSDS.	400pts

## EGYPT

The US M1A1 is now being assembled in Egypt from kits supplied from America, however, the agreement does not include the APFSDS(DU) round which will not be used by the Egyptian army due to the US ban on DU technology transfer and export. Egypt has in the past been very active in seeking help to upgrade its ancient Soviet and US equipment but as of 1993 the only appreciable modernisation carried out has been the fitting of new fire control to its M60A3s and the replacing of the T62s gun with a UK Royal Ordnance 115mmS gun.

Tanks in service are the US M1A1, M60A3 and M60A1 and the Soviet T-54/55 and T-62. It is thought that the T-54/55s will be removed from service as surplus US M60A1s and A3s, transferred from Europe, are upgraded in Egypt and therefore the Ramses III upgrade detailed below may never enter production.

M1A1	As US M1A1 but with APFSDS(DU) replaced by APFSDS. and armour is 17c5 / 6c4 / 3c2 / 3T	745pts
T-62	115mmS*(L/D). APFSDS,Heat. cMG. LFC. S2. 8 / 3 / 2. B A D. SM. SG. IRNF,IRD.	
(1985)	40t. 50km/hr.	355pts
	* Supplied by UK Royal Ordnance (See Penetration Table page 88)	
T-54/55	105mm. APFSDS,Heat. cMG,pHMG. LFC. S2. 7 / 3 / 2. B A D. HM. SD1,SG.	
Ramses III(1994NP)	IRNF,IRD. NBC. 37t. 50km/hr.	400pts
T-54/55	100mmS(L/D). APHE,Heat. cMG,pHMG. LFC. 7 / 3 / 2. B A D. SM. SG. IRNF,IRD.	
(1975)	NBC. 36t. 50km/hr.	320pts
	1985 - Add:- APFSDS.	340pts

## FINLAND

Tanks in service are Soviet T-54/55s, T-55Ms, T-72s and PT-76s.

T-55M (1990)	100mmS(L/D). APFSDS,Heat. cMG,pHMG. LFC. S2. 7 / 3s1 / 2. B A D. SM. SD2,SG. IRNF,IRD. 36t. 50km/hr.	370pts
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## FRANCE

As of mid-1994 France was the only Western European country that had a modern MBT in current production. This tank is the Leclerc and the first regiment should be operational by the end of 1996 while Abu Dhabi should be receiving the first of their order in late 1994. The vehicle is fitted with an AFV Protection system which is capable of automatic reaction to laser guided/designated ATGW threats and in the future will most likely be fitted with an AR system making it capable of detecting and reacting to all types of threats.

The AMX30-B2 will remain in service for some years and to increase its survivability those of the Rapid Reaction Forces are to be fitted with ERA as well as the defensive package fitted to the Leclerc. Most French AMX-30s are being upgraded to the AMX-30B2 standard.

LECLERC (1995)	120mmS. AL. APFSDS(DU),Heat. cHMG,CuMG. VFC. S3. 17c4 / 7c3 / 3c1 / 3T. B A C. VHM. SD3(A). TI,IID. LD. Sn. NBC. 54t. 72km/hr. 1996? - Add:- AR sensors and replace 120mmS with 120mmS(HP).	800pts 830pts
AMX30-B2 (1982)	105mm. APFSDS,Heat. c20mmA,CuMG. IFC. 7s3 / 3s2 / 2s1. B A D. HM. SD1. LLTV,IID. Sn. NBC. 37t. 65km/hr. 1991 Gulf War - Replace SD1 with SD3 and LLTV with TI. Add:- IRJ. 1995 - Rapid Reaction Force tanks as Gulf War standard but armour is :- 7s3E2/ 3s2E2 / 2s1. and SD3 replaced by SD3(A).	455pts 490pts 535pts
AMX-30 (1967)	105mm Heat. cHMG,CuMG. OFC. 6 / 2 / 1. B A D. HM. SD1. IRNF,IRD. Sn. NBC. 36t. 65km/hr. 1968? - Replace cHMG with c20mmA. 1982 - Add:- APFSDS.	315pts 325pts 365pts
AMX-30S Saudi Arabia	105mm. Heat. cMG,pHMG. LFC. 6 / 2s1 / 1. B A D. HM. SD1. IRNF,IRD. Sn. 36t. 60km/hr. 1985 - Add:- APFSDS.	330pts 370pts
Venezuela	1987 - As AMX-30 1982 but Add:- LFC, S2 and SG. 1994? - replace IRNF with IINF.	390pts 395pts
AMX-40 (1986 NP)	120mmS. APFSDS,Heat. c20mmA,CuMG. IFC. S2. 12 / 4s2 / 2. B A C. VHM. SD3,SG. LLTV,IID. Sn. DZB. NBC. 44t. 70km/hr.	590pts
MARS 15 (1994 NP)	90mmHP. APFSDS,Heat. cMG,pMG. IFC. S2. 4 / 2 / 1. B A D. VHM. SD1. IINF,IID. LD. NBC. 16t. 75km/hr. 1994 NP - As MARS 15 but SD2 replaced by SD3(A) and weight is 18t.	400pts 405pts

### AMX-13 VEHICLES (The FL numbers refer to the turret design)

FL-10 (1953)	75mm. AL. Heat. cMG,pMG. OFC. 2 / 1 / 0. B B D. HM. SD1. IRD. 15T. 60km/hr. 1958 - Add:- 2 x SS 11 ATGWs co-ax with barrel. Export only - Add:- 3 x HOT 1 ATGWs co-ax with barrel and also IINF.	230pts 270pts 370pts
FL-10 (1962)	90mm. AL. Heat. cMG,pMG. OFC. 2 / 1 / 0. B B D. HM. SD1. IRNF,IRD. 16t. 64km/hr. (By 1970 all French vehicles were to this standard) 1982 - Add:- APFSDS. Venezuela 1989 - As FL-10 1982 but add:- LFC.	260pts 295pts 305pts
FL-12 (1980?)	105mmLt. AL. Heat. cMG,pMG. LFC. 2 / 1 / 0. B B D. HM. SD1. IINF,IID. 16t. 65km/hr. 1982 - Add:- APFSDS.	285pts 325pts
FL-15	1987 - As FL-12 1982 but armour is 3 / 1 / 0. Ecuador 1988 - As FL-15 above but no IINF or IID.	335pts 305pts

## WEST GERMANY

The last production Leopard 2 rolled off the assembly line in 1992 and since then the line has remained in operation by overhauling the 380 Leopard 2s of Batch 1 and upgrading them to the current standard with TI.

The Leopard 2 (Improved) completed its trials in 1992 and the first conversions should start to enter service in 1993/4 and it is planned to convert around 225 of the Leopard 2s to the improved standard along with those of Switzerland and the Netherlands. The order placed by Sweden in 1994 is for the improved version but they may take some basic models initially.

Tanks in service are the Leopard 2 and the Leopard 1 the latter being in 1A1A, 1A2, 1A3, 1A4 and 1A5 versions, although it is planned to phase out of service all Leopard 1s in the next 2/3 years.

LEOPARD 2 (1980)	120mmS. APFSDS,Heat. cMG,pMG. LFC. S2. 14c4 / 5c3 / 3c2. A A C. VHM. SD1. LLTV,IID. Sn. NBC. 55t. 72km/hr.	615pts
1982	120mmS. APFSDS,Heat. cMG,pMG. AFC. S2. 14c4 / 5c3 / 3c2. A A C. VHM. SD2. TI,IID. Sn. NBC. 55t. 72km/hr.	655pts
LEOPARD 2 Improved(1994)	120mmS. APFSDS,Heat. cMG,pMG. VFC. S3. 18c5/ 7c4 / 4c2/ 4A. A A C. HM. SD4. TI,IID. LD. Sn. NBC. 62t. 70km/hr.	785pts
	1996? - Replace 120mmS with 120mmS(HP) firing APFSDS.	795pts
LEOPARD 1 (1966)	105mm. APDS,Hesh,Heat. cMG,pMG. OFC. 6 / 3 / 2. B A D. HM. SD1. IRNF,IRD. 40t. 65km/hr.	340pts
1A1A1	1971 -As Leopard 1- Add:- S2 stabilization and armour is 8s3 / 3s3 / 2s2. Weight is 42t.	410pts
1A2	1975 - As Leopard 1 but IRNF,IRD replaced by IINF,IID. armour is 9 / 3s2 / 2. Add:- S2 stabilization.	400pts
1A3	1976 - As 1A2 but armour is 9s3 / 3s2 / 2s2.	425pts
1A4	1978 - As 1A3 but IINF replaced by TI and OFC replaced by IFC.	465pts
1A5 (1987)	105mm. APFSDS,Heat. cMG,pMG. AFC. S2. 10s3 / 4s2 / 2. B A D. HM. SD2. TI,IID. Sn. NBC. 44t. 63km/hr.	510pts
	1996? - Replace 105mm with 120mm gun.	+40pts
<b>LEOPARD 1 export variants</b>		
	All the following may fire APFSDS from 1987.	+20pts.
Australia (AS1)	1996 - Leopard 1A3, OFC replaced by LFC and IINF replaced by TI.	+30pts
Turkey (T-1)	1983 - Leopard 1A3, OFC replaced with LFC and IINF replaced by TI.	+30pts
	1991 - Leopard 1A5, replace AFC with IFC.	-10pts
	1993 - IINF replaced by TI.	+20pts
Canada (C-1)	1979 - Leopard 1A3, OFC replaced by LFC.	+10pts
	1995? - Leopard 1A3, gun replaced by 105mm(HP) and LFC replaced by IFC.	+50pts
Belgium	1975 - Leopard 1A2, OFC replaced by LFC and S2 added.	+20pts
	1988 - Leopard 1A2, replace IINF with TI.	+20pts
Denmark	1977 - Leopard 1A3, all to converted to 1A5 standard by 1992/3.	
Greece	1984 - Leopard 1A3, OFC replaced by LFC and IINF replaced by LLTV.	+20pts
	1989 - Leopard 1A3, LFC replaced by IFC and SD1 replaced by SD3.	+25pts
Dutch (1-V)	1970 - Leopard 1.	
	1975 - Leopard 1A1A1. with IRD replaced by IID.	+5pts
	1995 - Leopard 1A1A1 with IINF replaced with TI.	+20pts
Norway	1971 - Leopard 1 (Upgraded to 1A5 standard in 1994 - See Norway section)	
Super M48 (1990 NP)	105mm. APFSDS,Hesh,Heat. cMG,pMG. IFC. S2. 10s4 / 4s3 / 3. B A C. HM. SD2. TI,IID. 53t. 56km/hr.	515pts
M48A2GA2 (1979)	105mm. APDS,Hesh,Heat. cMG,pMG. OFC. 8 / 3 / 2. A A C. SM. SD1. LLTV,IRD. 48t. 48km/hr	360pts
	1987 - Add:- APFSDS.	380pts



## INDIA

The Indian designed Arjun is still plagued with problems not the least of which is the order for its fire control ordered from Yugoslavia just before UN sanctions were imposed. Production should have started in 1990 at a rate of 200 vehicles a year but some estimates now give an in service date of 1999. India started production of the T-72B1 (called the T-72MI) in 1987 with first deliveries being made in 1988. Only a small number were to be produced but due to the Arjun delays production continued and the army now has at least 900 in service.

Around 1/3rd of Vijayantas (basically the Vickers Mk1) will be upgraded to the BISON standard and the rest may have partial upgrades which will most likely include the APFSDS, SD2 and some increase in armour.

A new light tank is under development for possible production in 1995. This is based on a BMP-1 chassis (although final production vehicle may be a BMP-2 chassis) and fitted with a French TS-90 turret. All of Indias Centurion tanks have now been withdrawn from service, some of which have found their way to South Africa.

Tanks in service are Soviet T-54/55, T-72MI and PT-76s and the Indian Vijayanta.

ARJUN (1994 NP)	120mm. APFSDS,Heat,Hesh. cMG,pHMG. AFC. S3. 16c4 / 6c3 / 3c2 / 3T. A A C. HM. SD2. TI,IID. LD. NBC. 55t. 72km/hr.	715pts
VIJAYANTA (1966)	105mm. APDS,Hesh. cHMG,pMG. RFC. S2. 7 / 3 / 2. B A D. SM. SD1. IRNF,IRD. 40t. 48km/hr.	350pts
	1982 - RFC replaced with LFC.	365pts
BISON (1995?)	105mm. APFSDS,Hesh,Heat. cHMG,pMG. IFC. S2. 8c3 / 3c2 / 2c1. A A C. SM. SD2. TI,IRD. NBC. 41t. 48km/hr	480pts
T-54/55 (1987?)	105mm. APFSDS,Heat,Hesh. cMG,pMG. LFC. S2. 7 / 3 / 2. B A D. SM. SD1,SG. IRNF,IRD. Sn. NBC. 36t. 50km/hr.	385pts
	1994? - IRNF replaced by IINF and LFC by IFC.	400pts

## INTERNATIONAL

As well as the Jaguar collaboration between China and the USA (see China section) the US and Vickers (UK) have teamed up to develop an export version of the more sophisticated US Armoured Gun System (M8-AGS) (previously designated as the CCVL) which is to be called the VFM-5.

JAGUAR (1990 NP)	105mm. APFSDS,Heat,Hesh. cMG,pHMG. IFC. S2. 10c3 / 4c2 / 2c2. B A C. HM. SD2. IINF,IID. NBC. 42t. 55km/hr. (Based on a Chinese Type 59 chassis).	510pts
VFM-5 (1994 NP)	105mmLt. APFSDS,Heat,Hesh. cMG,pMG. IFC. S2. 5 / 2s2 / 1. C B D. VHM. SD2. IINF,IID. 20t. 70km/hr.	420pts
	If pMG replaced by pHMG.	+ 5pts
	If IINF replaced with TI.	+ 20pts

## IRAQ

Iraq continues to bring out upgrades and variants of its T-55, T-62 and Type-69 II fleets such as the up-gunning of the T-55 and Type-69s with the 125mm smooth bore gun from the T-72M and the addition of large amounts of passive armour. However, it is thought that only the passive armour versions were produced in quantity as these were the only variants encountered during Desert Storm.

Tanks in service are Soviet T-54/55s, T-62s, T-72s and PT-76s, Chinese Type-59s (mod) and Type-69 IIs, UK Chieftains and Assad Babyle's (Babylon Lion) the latter being a licenced produced T-72M.

T-55 (1988)	100mmS(L/D). AL. APFSDS,Heat. cMG,pHMG, LFC. S2. 8c3 / 4c2 / 2c2. B A C. SM. SD1,SG. IINF,IRD. 37t. 50km/hr.	435pts
	1990 - 100mm gun replaced with 125mmS(L/D). A few vehicles only.	475pts
T-72M1 (1988)	125mmS(L/D). AL. APFSDS,Heat. cMG,pHMG. LFC. S2. 12c2 / 5s2 / 2 / 2T. B A C. HM. SD1,SG. IRNF,IRD. Sn. NBC. 44t. 80km/hr.	510pts
	1991? - Some vehicles fitted with IRJ and LD	530pts

## INDONESIA

Tanks in service are the Soviet PT-76 and the French AMX-13 (FL-10). It is also understood that the Indonesian Marines have been equipped with a new Fire Support Vehicle which is based on the chassis of the French AMX-10P and mounting a TS-90 turret.

FSV (1985?)	90mmLt. APFSDS,Heat. cMG. LFC. 3 / 1 / 0. B A C. HM. SD1. IINF,IID. Amp. NBC. 15t. 65km/hr.	280pts
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# ISRAEL

The latest version of the Merkava, the Mk3, is already in service but it is understood that a Merkava 4 is in development and may well be fitted with a 140mm gun. However, due to budget constraints three quarters of their tank fleet will still be made up of older, much modified, M48s, M60s and Centurion tanks. Sherman tanks are out of service some being sold to Chile and the Lebanese Militia and others re-worked into specialist types.

Tanks in service are the Merkava 1, 2 and 3, Upgraded Centurions, M48A5s, M60s (most to Magash standard), T-54/55, T62s and some PT-76s which are mostly in reserve but some being modified as fire support vehicles.

<b>MERKAVA 3</b> (1989)	120mmS. APFSDS,Heat. cMG,2 x pMG, cHMG. AFC. S3. 17c5 / 7c4 / 4c2 / 4T. B A D. HM. SD3. 60mm Mortar. TI,IID. LD. NBC. 62t. 55km/hr.	765pts
	1993? - SD3 replaced by SD4(A).	780pts
	1995? - Add:- AR and replace AFC with VFC.	810pts
	1996? - 120mm replaced by 120mmS(HP).	820pts
<b>MERKAVA 2</b> (1983)	105mm. APFSDS,Heat. cMG,2 x pMG, cHMG. IFC. S2. 17s4 / 7s4 / 3s3. B A D. SM. 60mm Mortar. IINF,IID. NBC. 63t. 46km/hr.	605pts
	1985 - Add:- LD	615pts
	1991 - Add:- SD2.	630pts
	1993 - Replace SD2 with SD4(A), IFC with AFC.	660pts
<b>MERKAVA 1</b> (1980)	105mm. APFSDS,Heat. cMG,2 x pMG. LFC. S2. 14s4 / 6s4 / 3s3. B A D. SM. 60mm Mortar. IINF,IRD. NBC. 63t. 46km/hr.	545pts
	If fitted with additional cHMG and IRD replaced by IID.	560pts

## MAGACH VEHICLES

<b>Magach 7A</b> M-48(1990)	105mm. APFSDS,Heat. cMG,2 x pMG,cHMG. IFC. S2 12c4 / 6c3 / 3c2 / 3T. A A C. SM. SD2. IINF,IID. LD. NBC. 54t. 48km/hr.	580pts
<b>Magach 7B</b> M-60A1(1992)	105mm. APFSDS,HEAT. cMG,2xpMG,cHMG. IFC. S2. 14c4 / 6c3 / 3c2 / 3T. A A C. SM. SD2. IINF,IID. LD. NBC. 54t. 48km/hr.	600pts
	1993? - SD2 replaced by SD4(A) and add:- AR.	640pts
<b>Magach 7C</b> M-60A3(1994?)	120mmS. APFSDS,HEAT. cMG,2xpMG,cHMG. AFC. S2. 14c4 / 6c3 / 3c2 / 3T. A A C. SM. SD4(A). AR. TI,IID. LD. NBC. 54t. 48km/hr.	710pts
	NOTE:- on all the above vehicles, including the Merkava's the cHMG may not be used if the main gun is used.	
<b>M60A1</b> (1975)	105mm. Heat. cMG,2 x pMG. LFC. 11E / 4E / 3 / 3T. A A C. SM. 60mm Mortar. SD1. IRNF,IRD. NBC. 52t. 48km/hr.	425pts
	1982 - Add:- S2 stabilization and LD.	445pts

## SHERMAN VEHICLES

<b>M 1</b> (1956)	76.2mm AP. cMG,bMG. BFC. 4 / 2 / 1. B A D. SM. 32t. 43km/hr.	170pts
	M50 Mk1 - 1956 - As M1 above but gun is 75mm (APC) and BFC replaced by OFC.	190pts
	M50 MK2 - 1960 - As Mk 1 (75mm) but add:- SD1.	195pts
<b>M51</b> (1965)	105mmLt. Heat. cMG,pMG. LFC. 6 / 2 / 2. B A D. SM. 60mm Mortar. SD1. IRNF,IRD. 39t. 45km/hr.	315pts

## T-55 VEHICLES

<b>T1-67</b> T-55(1968)	105mm. (L/D). Hesh,Heat. cMG,pMG,pHMG. LFC. 7 / 3 / 2. B A C. SM. IRNF,IRD. NBC. 37t. 44km/hr.	340pts
<b>1985</b>	105mm. (L/D). APFSDS,Heat,Hesh. cMG,pMG,pHMG. LFC. S2. 7E / 3E / 2. B A C. SM. IINF,IID, LD. NBC. 38t. 44km/hr.	425pts

## OTHER VEHICLES

<b>SHO'T</b> Centurion(1970)	105mm. APDS,Hesh,Heat. cMG,2 x pMG. LFC. S2. 10 / 4s1 / 3. A A C. SM. SD1. IINF,IRD. 51t. 43km/hr. This is the upgraded Centurion Mk5.	415pts
	1976 - Add:- cHMG over barrel and armour now 10E / 4s1E / 3.	445pts
	1984 - As 1976 but LFC replaced by IFC and APFSDS and LD added.	485pts
<b>PT-76</b> FSV(1994NP)	90mm. APFSDS,HEAT. cMG,pMG. IFC. S2. 2 / 1 / 0. C B D. HM. SD1,SG Amp. NBC. 15t. 44km/hr.	305pts

This is an up-grade offered by Israel aimed at customers such as Indonesia who have large quantities of Soviet PT-76 vehicles in service.

## ITALY

Italy's latest tank the C1 Ariete is due to enter production in 1994 with an initial order for 200 vehicles at the rate of 33 per year. Studies are already underway for a Mk2 version with an auto-loader and more advanced suspension system. All OF-40 Mk1s (including Dubai) were upgraded to the Mk2 1984 standard by 1993. Italy has a large fleet of Leopard 1s (most of which were built in Italy) and is at present looking at various retro-fit options to enable them to remain in service until the end of the decade. Some M60A1 tanks have now been transferred to Greece, while 10 M-60A1s with ERA have been leased from the USA for use in Somalia.

Tanks in service are Leopard 1s, M60A1s and some M47s the latter mostly in an internal security role.

C1-ARETE (1993 NP)	120mmS. APFSDS,Heat. cMG,pMG. AFC. S3. 16c4 / 6c3 / 3c2. B A C. HM. SD2. TI,IID. LD. Sn. NBC. 54t. 65km/hr.	685pts
OF-40 Mk1 (1982)	105mm. APDS, Heat,Hesh. cMG,pMG. LFC. 11 / 5s1 / 2. B A C. HM. SD1. IINF,IID. NBC. 46t. 60km/hr.	425pts
Mk 2 (1984)	105mm. APFSDS,Heat,Hesh. cMG,pHMG. IFC. S2. 11 / 5s1 / 2. B A C. HM. SD1. LLTV,IID. NBC. 46t. 60km/hr.	480pts

## JAPAN

Japans latest tank the Type-90 is very much a Leopard 2 look a like, and between 200 and 500 are to be made with final production vehicles being delivered in 1996/7. The older Type-60 tanks are due to be taken out of service by 1996. Tanks in service are the Type-61, Type-74 and the Type-90.

TYPE-90 (1992)	120mmS. AL. APFSDS,Heat. cMG,pHMG. VFC. S3. 15c4 / 6c3 / 3c2. B A C. VHM. VHM. SD2(A). TI,IID. LD NBC. 50t. 70km/hr.	725pts
TYPE-74 (1976)	105mm. APDS,Hesh. cMG,pHMG. LFC. S2. 7 / 3 / 2. B A C. HM. SD1. IRNF,IRD. NBC. 38t. 60km/hr. 1988 - Add:- APFSDS, replace IRNF,IRD with IINF,IID armour 7s3 / 3 / 2 / 2T.	375pts 430pts
TYPE-63 (1963)	90mm. APC. cMG,CuHMG. OFC. 6 / 2 / 1. A A D. HM. 35t. 45km/hr. 1988? - Add:- SD2 and IRNF,IRD. size now A A C.	225pts 260pts

## KOREA (NORTH)

The North Korean tank fleet comprises of 2000 T-54/55s, 1500 T-62s and around 150 Type-59s, the T-62s being licenced built between the late 1970s and mid 1980s. The M1985 light tank, which appears to be a copy of the Soviet PT-76, is thought to have entered service in 1983.

M1983 PT76(1983?)	85mm. Heat. Sagger C (1+3) AT3 ATGW. cMG,pHMG. OFC. S1. 3 / 1 / 1. B A C. HM. SG. IRD. Amp. 19t. 64km/hr.	345pts
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## KOREA (SOUTH)

South Korea's latest tank the Type 88 is basically a US design based on the M1 and first deliveries were made in 1985. A new version of the tank is under development fitted with a 120mm smooth bore gun and with a possible in service date of 1996/7. Tanks in service are the M47, M48A2, M48A3, M48A5 and the Type 88.

TYPE 88 K-1(1986)	105mm. APFSDS,Heat. cMG,pMG,pHMG. AFC. S2. 15c4 / 6c3 / 3c2. B A C. HM. SD2. TI,IID. NBC. 51t. 65km/hr.	630pts
K-1A1 (1996?)	120mmS. APFSDS,Heat. cMG,pMGpHMG. AFC. S3. 16c4 / 6c3 / 3c2. B A C. HM. SD3. TI,IID. LD. NBC. 52t. 65km/hr.	705pts
M48A5 (1978)	105mm. APDS,Heat. cMG,pMG. OFC. 8 / 3s1 / 2. A A C. SM. SD1,SG. IRNF,IRD. NBC. 49t. 48km/hr. 1986 - Add:- APFSDS and S2 stabilization and replace OFC with LFC.	355pts 395pts

## NORWAY

Tanks in service are Leopard 1s, M48A5s and NM116s (modified M24s). There are also some unmodified M24s in the reserves. The Leopard 1s should all be upgraded to Leopard 1A5 standard (but retaining the cast turret) by the end of 1994. Germany is also supplying a further 92 Leopard 1s so that the M48s can be phased out of service in 1994/5.

LEOPARD 1A5	1993 - As German Leopard 1A5 but add :- LD and armour is 9 / 3s2 / 2.	490pts
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NM-116 (1976)	90mmLt. Heat. cHMG,pHMG. LFC. S1. 2 / 1 / 1. B B D. SM. SD1. IRNF,IRD. 19t. 57km/hr. 1994? - Add:- LD. and SD1 replaced by SD2. If IRNF,IRD replaced by IINF,IID.	270pts 290pts + 10pts
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## PAKISTAN

After 1979 all Pakistans M48s were upgraded to the M48A5 standard. In 1990 a contract was signed with the Chinese for Pakistan to build and upgrade Chinese tanks. Initially this was for upgrading Type-59s but was followed with the assembly and part production of the Type-69 IIs and Type-85s. The first Type-85s were delivered in 1992 and are known locally as the Type-85 IIA but are identical to the Chinese Type-85 IIM. In 1995 the Pakistan version of the Chinese designed Type-90 is to enter production and is known locally as either the MBT2000 or the Al-Khalid. Tanks in service include:- M24 Chaffees, M47s, M48A5s, T-54/55s, Type-59s, Type-60s, Type-69s and Type-85s. There may also be some Soviet T-62s and T-72s.

AL-KHALID (1999?)	125mmS. AL. APFSDS,Heat. cMG,pHMG. AFC. S2. 13c3 / 5c2 / 2. B A D. HM. SD2,SG. TI,IID. NBC. 48t. 62km/hr. If ERA armour fitted is:- 13c3E / 5c2E / 2.	585pts + 20pts
Type-69 IIMP (1988?)	105mm. APFSDS,Heat. cMG,pHMG,bMG. LFC. S2. 8 / 3s1 / 1. B A D. SM. SG. IRNF,IRD. NBC. 37t. 50km/hr.	400pts
Type-59M (1994 NP)	105mm. APFSDS,Heat. cMG,bMG,pHMG. LFC. S2. 8 / 3s1 / 1. B B D. SM. SG. TI,IID. Sn. NBC. 36t. 50km/hr.	435pts
M48A5	1988 - As US vehicles but with APFSDS.	380pts
T-54/55	1988 - As Soviet T-55A but add APFSDS.	305pts

## POLAND

Poland switched tank production from the T-55 to the T-72 in 1981/2. The initial T-72s were very similar to that produced by the Soviets but the latest model, the PT-91, is a considerable improvement in both fire control and night fighting capability.

Tanks in service are the T-55AM2P (Soviet designation T-55AMV and fires AT-10 Stabber ATGW), T-72M1 and the PT-76 with some older T34/85s in the reserves.

T-72M1 T72B(1982)	125mmS(L/D). APFSDS,Heat. cMG,pHMG. LFC. S2. 10c2 / 4s1 / 2 / 2T. B A D. HM. SD1,SG. IINF,IID. Sn. DZB. NBC. 42t. 60km/hr. 1991? - Armour now 10c2E / 4s1E / 2 / 2TE.	480pts 510pts
PT-91 T72-M1(1994?)	125mmS(L/D). APFSDS,Heat. cMG,pHMG. IFC. S2. 11c2E / 5s1E / 2 / 2TE. B A D. HM. SD2,SG IINF,IID. LD. Sn. NBC. 43t. 60km/hr. If IINF replaced with TI.	555pts 575pts

## ROMANIA

The TR-85 is a locally built version of the T-55 and was first seen in 1977. It has a Chinese type Laser Range Finder and steel side skirts. The TR-580 was an earlier version of the above TR-85.

The TR-125 is again a Romanian version of the T-72 but it is possible that it never entered service.

Tanks in service are the T-54/55, TR-85 and TR-580.

TR-85 T-55(1977)	100mmS(L/D). HVAP*,Heat. cMG,pMG. LFC. 9 / 4s1 / 2. B B D. SM. SD1,SG. IRNF,IRD. Sn. NBC. 43t 45km/hr. (*Use APDS line on Table 11.9.1) 1984 - Add:- APFSDS. 1989 - Add:- LD.	365pts 375pts 385pts
TR-580 (1977)	As Soviet T55A(M) 1970 but armour is 7 / 3s1 / 2.	310pts
TR-125 T-72(1988?)	125mmS(L/D). APFSDS,Heat. cMG,pHMG. LFC. S2. 12 / 3s1 / 2. B A C. HM. SD1. IRNF,IRD. LD. Sn. NBC. 48t. 60km/hr.	465pts

## SINGAPORE

Singapore is the largest user of the AMX-13 light tank and have been active in up-grading their fleet over the past few years. The only other vehicle in service is the Centurion.

AMX-13 SM1 (1989)	75mm. AL. APFSDS,Heat, cMG,pMG. LFC. 4 / 1 / 0. B B D. HM. SD1. IRD. 16t. 64km/hr. 1993 - Add TI.	290pts 330pts
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## SOUTH AFRICA

South Africa has around 300 Centurions all have been modified to the Olifant(Elephant) Mk1 standard and is the only tank currently in service. The first production versions of the Mk 1B standard appeared in 1991 these being a complete re-build using the basic Centurion chassis and 105mm gun. It is believed that a considerable amount of tank technology has been supplied by Israel resulting in a new South African designed tank being revealed which it is assumed was originally designed to combat Soviet T-80 series tanks which was anticipated would be fielded in Angola. This threat has not developed and with spending limits now considerably reduced this tank will possibly remain a technology demonstrator only. It is rumoured that South Africa may have some Merkava 2's in service but there has been no confirmation of this.

OLIFANT	105mm. APDS,Hesh,Heat. cMG,pMG. OFC. S2. 10 / 4s1 / 3. A A C. SM. SD1.	
Mk 1A(1974)	IRNF,IRD. 56t. 45km/hr.	390pts
	1985? - IRNF,IRD replaced by IINF,IID.	400pts
MK 1B	105mm. APFSDS,Heat,Hesh. cMG,pMG. IFC. S2. 14s4 / 5s3 / 2s2 / 2T. MR. A A C.	
(1995?)	SM. SD1. TI,IID. 58t. 58km/hr.	570pts

## SOVIET

The new T-90 tank is entering service in 1994/5 and is a new design and not just a combination of T-72 and T-80 technology as previously thought, although the basic design is very similar to the T-72B1. It is reported to be one of the best protected tanks currently available but this, I suspect, is due to the employment of second generation ERA and the unique Shtora ATGW defence system rather than its base armour although ceramic armour technology from the T-80 and late production T-72s will most likely have been incorporated. As with all the latest Soviet MBTs its main anti-tank weapon is now the gun launched ATGW and in the case of the T-90 this is the AT-11 Sniper. There are other anti-missile defence systems under development but it is unlikely these will be seen in service unless development and production funding is found from the West. Also due to lack of money and the arms agreements signed it is likely that the Soviet army will be equipped with only two tank types by the late 1990s these being the T-90 and T-80 models.

T-90	125mmS(L/D). AL. APFSDS(DU),Heat. cMG,pHMG. AT-11A Sniper ATGW(6). AFC. S2.	
(1993)	16c4E2 / 6c3E2 / 3c2 / 3A. B A C. HM. SD2(A),SG. IRJ*. TI,IID. LD. NBC. 47t.	
	60km/hr. *Shtora IR jamming system.	870pts

### T-80 VEHICLES

T-80	125mmS(L/D). AL. APFSDS,Heat. cMG,pHMG. AT-8 Songster ATGW. LFC. S2.	
(1978)	11 / 4s1 / 2. B A C. HM. SD1,SG. IRNF,IRD. LD. Sn. DZB. NBC. 40t. 70km/hr.	545pts
T-80B	1983 - As T-80 but armour 13c4 / 5c3 / 3c2. speed VHM and weight 43t.	655pts
T-80BV	1984 - As T-80B but armour 13c4E / 5c3E / 3c2 / 3TE. and weight 45t.	695pts

T-80U	125mmS(L/D). AL. APFSDS, Heat. cMG,CuHMG. AT-11 Sniper ATGW. IFC. S2.	
(1988)	14c4E / 6c3E / 3c2 / 3TE. B A C. VHM. SD2,SG. IINF,IID. LD. Sn. DZB. NBC. 46t.	
	70km/hr.	750pts
	1993? - ERA is E2.	780pts
	1994? - Add APFSDS(DU) and IRJ. Replace IINF with TI and AT-11 with 11A.	855pts

### T-72 VEHICLES

T-72	125mmS(L/D). AL. Heat. cMG,pHMG. OFC. S2. 10c2 / 4s2 / 2. B A C. HM. SG.	
(1973)	IRNF,IRD. Sn. DZB. NBC. 41t. 80km/hr.	430pts
T-72A	As T-72 but add:- APFSDS and SD1 and replace OFC with LFC.	480pts
(1980)	(Export version T-72G)	
T-72B	As T-72A but armour is 12c2 / 5s2 / 2 / 2T. (Dolly Parton armour) weight is 45t.	515pts
(1983)	(Export version is T-72M1 or M1M).	
T-72BV	As T-72B but armour is 12c2E / 5s2E / 2 / 2T.	535pts
T-72B1	125mmS(L/D). AL. APFSDS,HEAT. cMG,pHMG. AT-11 Sniper ATGW. LFC.	
T-72S(1987)	14c4 / 5s2 / 2 / 2T. B A C. HM. SD1,SG. IRNF,IRD. Sn. DZB. NBC. 45t. 60km/hr.	625pts
	(Super Dolly Parton armour. T-72S is the export version)	
T-72B1V	As T-72B1 but armour is 14c4E / 6s2E / 2 / 2T.	645pts
(1988)	(Naval armoured units fitted with ERA from 1991)	
	1993? - ERA replaced by E2 and IRNF replaced by IINF. Add:- LD and IRJ	690pts
	1994? - APFSDS replaced by APFSDS(DU) and AT-11 replaced by AT-11A.	730pts

## T-64 VEHICLES

T-64 (1967)	115mmS(L/D). Heat. cMG,CuHMG. OFC. S1. 11s1 / 5s1 / 2. B A C. HM. IRNF,IRD. SG. Sn. DZB. NBC. 38t. 75km/hr.	410pts
T-64A (1970)	125mmS(L/D). AL. Heat. cMG,CuHMG. OFC. S2. 12 / 6s1 / 2. B A C. HM. SD1,SG. SD1,SG IRNF,IRD. Sn. DZB. NBC. 40t. 75km/hr.	450pts
T-64B (1980)	125mmS(L/D). AL. APFSDS,Heat. cMG,CuHMG. AT-8 Songster (6) ATGW. LFC. S2. 13c3 / 5s1 / 2 / 2T. B A C. HM. SD1,SG. IRNF,IRD. LD. Sn. DZB. NBC. 40t. 75km/hr.	600pts
T-64BV	1984 - As T-64B but armour 13c3E / 5s1E / 2 / 2TE.	630pts
T-64B1	As T-64B but no Songster ATGW.	540pts

## T-62 VEHICLES

T-62 (1964)	115mmS(L/D). APHE,Heat. cMG. OFC. S1. 8 / 3 / 2. B A D. SM. SG. IRNF,IRD. Sn. 40t. 50km/hr.	320pts
T-62M T-62A(1972)	As T-62 but add pHMG, NBC and replace IRNF,IRD with IINF,IID. 1975 - Replace OFC with LFC. 1987 - Add:- AT-12 Sheksna ATGW (6).	345pts 355pts 425pts
T-62M1	(Afghanistan) As T-62M 1975 but armour is 9s2 / 4s2 / 2. and weight is 42t. 1980 - Add:- APFSDS and S1 replaced by S2.	390pts 405pts
T-62 MV	1982 - As T-62M1 but add:- SD1 and armour is 9s3E / 4s2 / 2.	420pts
T0-62	As T-62M but flame thrower in place of cMG.	360pts

## T-54 VEHICLES

T-54 (1949)	100mm(L/D). APHE,Heat. cMG,bMG,pHMG. BFC. 6 / 3 / 2. B A D. SM. SG. Sn. 36t. 48km/hr.	265pts
T-54M	1951 - Add:- APDS.	275pts
T-54A	1955 - As T-54M but add:- S1 stabilization.	280pts
T-54B	1959 - S1 replaced by S2 and add:- IRNF,IRD. 1991 - Add:- APFSDS.	305pts 315pts
T-54 AM1/2	Czech 1984 - Add:- LD and replace BFC with LFC.	345pts

## T-55 VEHICLES

T-55A (1962)	100mm(L/D). APHE,Heat. cMG. BFC. S1. 7 / 3 / 2. B A D. SM. SG. IRNF,IRD. Sn. NBC. 36t. 50km/hr.	280pts
T-55A(M)	1970 - Add pHMG and APDS. 1974 - BFC replaced by LFC. 1984 - Add:- LD.	305pts 335pts 345pts
T-54/55	Vietnam - As T-55A(M) 1970 but armour is 7s2 / 3s2 / 2.	325pts
T-55AD (1988?)	1991 - As T-55A 1984 but add:- AT-10 STABBER ATGW(6) and THRUSH ATGW defence system. Count Thrush as Anti-Missile Defence on Table 11.8 but halve the factors. System only operates if ATGW threat detected by the LD.	440pts
T-55AMV (1986)	As T-55A(M) 1984 but armour is 7E / 3E / 2 and Add:- AT-10 STABBER ATGW(6). (Naval armoured units fitted with ERA after 1991)	430pts
T-55AM1/2 (1984)	100mm(L/D). APHE,Heat. cMG,pHMG. LFC. S2. 9s3 / 4s2 / 2. B A D. SM. SD1. IRNF,IRD. LD. Sn. NBC. 38t. 50km/hr. 1991 - APHE replaced by APFSDS.	390pts 410pts
T-55AM2B	As T-55AM1/2 1991 but add:- AT-10 Stabber ATGW(6).	475pts
T-54/55-OT	As T55A but cMG replaced by cFlame .	295pts

## PT-76 LIGHT TANKS

PT-76 (1952)	76mm(L/D). HVAP,Heat. cMG. BFC. 2 / 1 / 0. C B D. SM. SG. Amp. 14t. 44km/hr. Poland - Add:- pHMG.	155pts 170pts
PT-76B (1962)	76mm(L/D). HVAP,Heat. cMG. OFC. S1. 2 / 1 / 0. C B D. SM. SG. Amp. NBC. 14t. 44km/hr.	180pts

## OLD TANKS

T34/85 (1944)	85mm(L/D). HVAP,Heat. cMG,bMG. BFC. 5 / 2 / 2. B A D. SM. Sn. 32t. 55km/hr. China, Egypt and Syria - Add:- pHMG. China 1986? - replace BFC with LFC.	190pts 205pts 235pts
T-10 (1956)	122mm(L/D). APHE,Heat. cHMG,pHMG. BFC. 9 / 4 / 3. B A C. SM. SD. IRD. 50t. 42km/hr.	320pts
T-10M (1961)	122mm(L/D). APHE,Heat. cHMG,p14.5mmHMG. OFC. S1. 10 / 4 / 3. B A C. SM. SG. IRNF,IRD. Sn. NBC. 52t. 37km/hr.	375pts
IS-2 (1944)	122mm(L/D). APHE,Heat. cMG,pHMG,rMG,bMG. BFC. 7 / 3 / 2. B A C. SM. 46t. 37km/hr.	285pts
IS-3	1945 - As IS-2 but add:- SG, remove bMG and size is B A D. Weight is 46t.	285pts

## SPAIN

In 1980 Spain began licence production of the French AMX-30 MBT and from 1984 used this facility to modernise its AMX-30 fleet. From 1987 further upgrades were introduced these being TI, new fire control system and the fitting of ERA, the resulting upgrade being designated the AMX-30EM2. In addition to the M47 and M48 tanks already in service, Spain also received, in 1992, M60A3s and M60A1s from the US. The M60A3s are late production vehicles with TI and LFC both these and the M60A1s are to be converted in Spain to the A3TTS standard. On completion of these deliveries most M47s were to be withdrawn from service.

Tanks in service are the AMX-30, the M47/M47E, M48/M48E/M48A5 and the M60A1/M60A3.

M60-A3TTS	105mm. APFSDS,Heat. cMG,tuHMG. IFC. 11c2E / 5c2E / 3. A A C. SM. SD2,SG. TI,IID. Sn. NBC. 54t. 48km/hr.	535pts
AMX-30EM2 (1989)	105mm. APFSDS,Heat. cHMG,pHMG. IFC. S2. 6 / 2s1 / 1. B A D. HM. SD1. TI,IID. Sn. NBC. 36t. 65km/hr. 1991 - Armour is 6E / 2s1E / 1.	425pts 445pts
M48A5E (1984)	105mm. APFSDS,Heat. cMG,pHMG. IFC. S2. 8 / 3 / 2. A A C. SM. SD1,SG. IINF,IID. 49t. 50km/hr. 1989 - IINF replaced by TI.	415pts 435pts
M47E1 (1974)	90mm. APHE,Heat. cMG,pHMG. OFC. S1. 7 / 3 / 2. A A C. SM. SD1,SG. 47t. 56km/hr. 1984 - Add:- APFSDS.	290pts 330pts
M47E2	As E1 1974 but with 105mm gun and APHE replaced with APDS. Add:- IID. 1984 - Add:- APFSDS.	380pts 400pts

## SWEDEN

Sweden has chosen the Leopard 2 Improved (Swedish designation Leopard 2(S) or STRV 122) as its next MBT and deliveries should start in 1997 (first battalion in service by 1999), however, initial deliveries may be the latest version of the Leopard 2 for training purposes, these will be known as the STRV 121.

Tanks in service are the Centurion Strv 101/102/104 and the S tank 103B/103C.

S TANK	105mmf. AL. APDS,Hesh. fbMG*,CuMG. OFC. 10 / 4 / 2. C B D. HM. SD1. FL. IRD.	
Strv 103A(1967)	40t. 50km/hr.	390pts
Strv 103B	As 103A Add:- DZB. and Amp(screen) and armour is 10 / 4s2 / 2s2.	420pts
Strv 103C (1986)	105mmf. AL. APFSDS,Heat. fbMG*,CuMG. IFC. S2. 11 / 4s3 / 2s2. C B D. HM. SD1, 2 x FL. IINF,IID. 340t. 50km/hr. 1989 - Add:- NBC. Armour is 11s3 / 4s3 / 2s2. and size is B B C. 1991? - Armour 11s3E / 4s3E / 2s2. *This is infact 2 separete machine guns but they fire alternately and therefore have been classed as only 1 weapon.	510pts 520pts 540pts
CENTURION	105mm. APDS,Hesh. cMG,pMG. IFC S2. 9 / 4s1 / 2. A A C. SM. SD1. 2 x FL.	
Strv 101/102(1984)	IINF,IRD. 52t. 35km/hr. 1986 - Add:- APFSDS. 1995? - Armour is 9E / 4s1E / 2.	420pts 440pts 460pts

## SWITZERLAND

The Swiss are very active in the development of a new 140mm smooth bore gun and it was reported that a prototype gun had been fitted to a Leopard 2 for trials in 1992. However, as the Warsaw Pact threat has been removed it is possible that it will not be placed in production unless other countries show interest.

Tanks in service are the Pz 61, Pz 68 Mk 1 to 4 and the Pz 87 (Leopard 2). The upgrading of the Pz87 to the Leopard 2 Improved standard has now been put back until the end of 1999.

Pz 61 (1966)	105mm. APDS,Hesh. c20mmA,pMG. OFC. 6 / 2 / 2. B A C. SM. SD1. IRD. NBC. 38t. 55km/hr.	325pts
Pz 61 AA9 (1985)	As Pz 61 but c20mmA replaced by cMG and add:- APFSDS and FL.	340pts
Pz 68 (1972)	105mm APDS,Hesh. cMG,pMG. OFC. S2. 7 / 3 / 2. B A C. SM. SD1. FL. IRD. NBC. 40t. 55km/hr.	345pts
Pz 68/88	As Pz 68 but add:- APFSDS and replace OFC with LFC.	375ps

## TAIWAN

Taiwan's new MBT is the M48H (Brave Tiger) and is a complete hybrid in that it uses the hull of the M60 (purchased new from the USA) and fitted with an M48 turret mounting a 105mm gun. In 1990 Taiwan purchased 150 M60A3s from the USA with a further 110 in 1991, the latter being from US surplus stocks and fitted with TI.

Tanks in service are M24(mod), M41A1/A3, M48A2/M48A3/M48A5, Type 64, M60A3 and M24 flamethrowers as well as the new M48H.

M48H (1990)	105mm. APFSDS,Heat. cMG,pMG. AFC. S2. 10 / 4 / 3. A A C. SM. SD1.SG. TI,IID. LD?. Sn. NBC. 50t. 48km/hr.	480pts
Type-64	76mm. APDS,Heat. cMG,pHMG. LFC. 4 / 2 / 1. B A C. HM. IINF,IRD. Sn. 25t.	
M41A(19762)	72km/hr. 1986 - Add:- APFSDS	285pts 315pts.

## TURKEY

In 1992 the Turkish tank fleet comprised of 3000 M48s (two thirds of which were to the M48A5T1 standard) and 307 Leopard 1s, while the 500 old M47 tanks were in store. By 1992 all the M48s were to be upgraded to the M48A5T1 and T2 standard. Turkey has also received more surplus Leopard 1s from Germany during 1982/84 (150 upgraded to the 1A5 standard and 77 older 1A1A1 standard) and M60A1s and A3s from the USA.

M48A5T1 (1984)	105mm. APDS,Heat. cMG,pMG. OFC. 8 / 3 / 2. A A C. SM. SD1,SG. IRNF,IRD. Sn. NBC. 49t. 48km/hr. 1985 - Add:- APFSDS.	350pts 370pts
M48A5T2 (1988)	105mm. APFSDS,Heat. cMG,pMG. IFC. S2. 8 / 3s1 / 2. A A C. SM. SD1,SG. TI,IID. Sn. NBC. 49t. 48km/hr.	435pts

## UNITED KINGDOM

Challenger 2 is to enter production in late 1994 and will be fitted with the new 120mm high pressure rifled gun which is also to be retro-fitted to the Challenger 1s, however, it is becoming increasingly likely that the Challenger 1s will be completely replaced by new Challenger 2s and the upgrade proposals scrapped. The CHARM designation refers to the ammunition where CHARM 1 was the initial APFSDS(DU) round used in the Gulf War while CHARM 3 is the latest, improved, projectile due into service in 1997. Unlike the US M1's export customers for Challenger 2 will be able to field the DU projectile. Most UK Chieftains were taken out of service by 1993 but some will remain in service.

Royal Ordnance is also testing its new high pressure 105mm IWS gun (Improved Weapon System), at present on a Canadian Leopard 1, and claim that this weapon and its associated ammunition gives a performance similar to that of a 120mm smooth bore gun.

### CHALLENGER VEHICLES

Challenger 2 (1996)	120mmHP. APFSDS(DU),Hesh. cMG,pMG. VFC. S3. 19c5 / 7c5 / 4c2 / 5A. MR. A A C. HM. SD2(A),SG. IRJ. TI,IID. LD. NBC. 63t. 56km/hr. Oman 1996? - pMG replaced by pHMG remove MR and armour is 19c5 / 7c4 / 4c2 / 5A.	880pts 860pts
Challenger 1 (1984)	120mm. APFSDS,Hesh. cMG,CuMG. IFC. S2. 16c5 / 6c4 / 4c2 / 4T. A A C. HM. SD2. IINF,IID. NBC. 62t. 56km/hr. 1986 - Add :- TI and LD.	680pts 710pts
Gulf War (1991)	120mm. APFSDS(DU),Hesh. cMG,CuMG. IFC. S2. 16c5 / 7c5 / 4c2 / 4T. MR. A A C. HM. SD2. IRJ. TI,IID. LD. NBC. 65t. 56km/hr. 1995/6? - replace 120mm gun with 120mmHP?.	770pts 780pts



KHALID (1982)	120mm. APFSDS,Hesh. cMG,CuMG. IFC. S2. 13 / 5s1 / 3. A A C. HM. SD1. IINF,IID. NBC. 58t. 48km/hr.	545pts
<b>CHIEFTAIN VEHICLES</b>		
Mk 2/3 (1968)	120mm. APDS,Hesh. cMG,CuMG. RMG. S2. 12 / 5s1 / 3. A A C. SM. SD1. IRNF,IRD. NBC. 54t. 48km/hr.	430pts
Mk 5	1974 - RMG replaced by LFC (not on Kuwait or Iran vehicles).	445pts
Mk 9	1980 - As Mk5 but LFC replaced with IFC, IRNF replaced by IINF. 1984 - Add:- APFSDS and LD.	460pts 530pts
Mk11/12 (1986)	120mm. APFSDS,Hesh. cMG,CuMG. IFC. S2. 14c4 / 6s3 / 3. AAC. SM. SD2. TI,IID. LD. NBC. 55t. 48km/hr.	630pts
CHIEFTAIN 2000	1994NP - As Mk11/12 but add:- LD and replace IFC with AFC.	650pts
<b>CENTURION VEHICLES</b>		
Mk 1/2 (1947)	17Pdr. APDS. cMG. BFC. S1. 7 / 3s1 / 2. A A C. SM. SD1. 46t. 38km/hr.	225pts
Mk 3	1950 - 17Pdr replaced by 20Pdr.	245pts
Mk 5 (1956)	105mm. APDS,Hesh. cMG,pMG. OFC. S2. 8 / 3s1 / 2. A A C. SM. SD1. 51t. 35km/hr.	340pts
Mk 6/7	1955 - As Mk5 but OFC replaced by RFC and armour is 9 / 4s1 / 2.	350pts
Mk 8/13	As Mk 6/7 but add:- IRNF,IRD and weight is 52t. 1986 - Add:- APFSDS.	370pts 390pts
TARIQ	Jordan 1972 - As Mk 6/7 but RFC replaced with LFC. 1984 - APDS replaced with APFSDS and IRNF replaced with IINF.	365pts 390pts
VICKERS Mk1 (1966)	105mm. APDS,Hesh. cMG,pMG. RFC. S2. 6 / 2s1 / 2. B A D. SM. SD1. IID. NBC. 38t. 48km/hr. 1984 - Replace APDS with APFSDS.	325pts 345pts
VICKERS Mk3 (1974)	105mm. APDS,Hesh. cMG,cHMG,pMG. LFC. S2. 7 / 3s1 / 2. B A C. HM. SD1. IINF,IID. NBC. 40t. 50km/hr. 1984 - Add:- APFSDS.	395pts 415pts
COMET (1945)	77mm. APDS. cMG,bMG. BFC. 4 / 2 / 1. B A C. HM. SD1. 33t. 52km/hr.	195pts

## UNITED STATES

Only 67 M1A2s are being built for the US army (first delivery in 1994) and a further 315 for Saudi Arabia (delivery to be completed in 1994). However, 210 older M1s are being re-built to the M1A2 standard fitted with a new M1A2 turret. The first of these vehicles came off the assembly line in March 1994 with a further 792 conversions being planned. Deliveries of the Kuwait order is due to start in late 1994. The first M1s fitted with DU (depleted Uranium) appear to be modified M1A1s sent to Germany in 1989 after which all production M1A1s were built with the DU armour system.

All US M60 tanks will be out of service by 1994 having been replaced by M1s. Most surplus M60 stocks are being offered to NATO countries (Spain, Greece, Turkey and Portugal), as well as 700 M60A1s for Egypt.

The M8-AGS (armoured Gun System) was originally called the FMC-CCVL (Close Combat Vehicle Light) with the prototype vehicles being designated as the XM8. This tank has been chosen, in preference to the Teledyne AAGS system, as the replacement for the M551 Sheridans and also to equip Rapid Reaction Forces. Taiwan has shown interest in building this vehicle under licence to replace its aging M41 and M24 vehicles. A simplified version of the CCVL called the VFM5 is also being developed for export (see International section).

## M1 ABRAMS VEHICLES

M 1 (1982)	105mm. APFSDS,Heat. cMG,pMG,pHMG. IFC. S3. 15c4 / 6c3 / 3c2 / 3T. A A C. VHM. SD1,SG. TI,IID. NBC. 55t. 72km/hr.	650pts
M1(Improved) (1985)	As M 1 but add:- APFSDS(DU) and armour is 16c5 / 6c4 / 3c2 / 3T.	705pts
M 1A1 (1986)	120mmS. APFSDS(DU),Heat. cMG,pMG,CuHMG. AFC. S3. 17c5 / 6c4 / 3c2 / 3T. A A C. VHM. SD2,SG. TI,IID. NBC. 57t. 67km/hr. 1994 Egypt - APFSDS without DU and armour 17c5 / 6c4 / 3c2 / 3T.	785pts 745pts

<b>M 1A1(DU)</b> (1989)	As M 1A1 but armour 18c5 / 7c4 / 4c2 / 4T. weight is 65t*. * this was the weight of the first vehicles sent to Germany in 1989. Production vehicles weight is 62t.	805pts
<b>M 1A2</b> (1994)	120mmS. APFSDS(DU),Heat. cMG,pMG,CuHMG. VFC. S3. 19c5 / 7c4 / 4c2 / 4A. A A C. VHM. SD3(A),SG. TI,IID. LD,AR?. NBC. 62t. 67km/hr. 1994 - Saudi Arabia - APFSDS without DU. 1995 - Kuwait as Saudi Arabia - Replace IID with TID and add:- MR. 1995? - USA - If IID replaced by TID and MR added.	895pts 855pts 880pts + 25pts
<b>M-60 VEHICLES</b>		
<b>M 60</b> (1960)	105mm. APDS,Heat. cMG,CuHMG. OFC. 8 / 3 / 2. A A C. SM. Sn. NBC. 50t. 48km/hr.	325pts
<b>M 60A1</b> (1963)	105mm. APDS,Heat. cMG,CuHMG. OFC. 10 / 4 / 3. A A C. SM. IRNF,IRD. Sn. NBC. 53t. 48km/hr.	375pts
<b>M60A1(Rise)</b> (1974)	As M 60A1 But add:- S2 and SD1 and replace IRNF,IRD with IINF,IID. 1987 - Add:- APFSDS and SD2 in place of SD1.	400pts 430pts
<b>M 60A1</b>	Marines -1988 - As M60A1(Rise) 1986 but armour is 10E / 4E / 3.	450pts
<b>M 60A3</b> (1980)	105mm. APDS,Heat. cMG,tuHMG. LFC. S2. 11 / 5 / 3. A A C. SM. SD1,SG. IINF,IID. Sn. NBC. 53t. 48km/hr.	435pts
<b>M60A3 TTS</b>	1983 - Add:- APFSDS and replace LFC with IFC and IINF with TI. 1987 - Replace SD1 with SD2.	475pts 485pts
<b>M 60A2</b> (1974)	152mmHow. Heat. Shillelagh gun launched ATGW (13). cMG,tuMG. LFC. S2. 10 / 4 / 3. A A D. SM. SD1. IRNF,IRD. NBC. 52t. 48km/hr.	465pts
<b>M-48 VEHICLES</b>		
<b>M 48</b> (1953)	90mm. HVAP,Heat. cMG,pHMG. BFC. 8 / 3 / 2. A A C. SM. IRD. Sn. 45t. 42km/hr.	260pts
<b>M 48A2</b> (1956)	90mm. HVAP,Heat. cMG,tuHMG. OFC. 8 / 3 / 2. A A C. SM. IRNF,IRD. Sn. NBC. 47t. 42km/hr.	300pts
<b>M 48A3 90mm.</b> (1968?)	HVAP,Heat. cMG,CuHMG. OFC. 8 / 3 / 2. A A C. SM. IRNF,IRD. Sn. NBC. 47t. 48km/hr. 1986 - Add:- APFSDS.	295pts 345pts
<b>M 48A5</b> (1976)	105mm. APDS,Heat. cMG,CuMG,pMG. OFC. 8 / 3 / 2. A A C. SM. SD1,SG. IRNF,IRD. Sn. NBC. 49t. 48km/hr. 1986 - Add:- APFSDS.	360pts 380pts
<b>M-47 VEHICLES</b>		
<b>M 47</b> (1951)	90mm. HVAP,Heat. cMG,bMG,pHMG. OFC. 7 / 3 / 2. A A C. SM. 46t. 48km/hr. 1986 - Add:- APFSDS.	270pts 320pts
<b>M 47M</b> (1972)	(Iran and Pakistan vehicles). 90mm. APDS,Heat. cMG,pHMG. LFC. 8 / 3 / 2. A A C. SM. IRNF,IRD. 47t. 56km/hr. 1986 - Add:- APFSDS.	315pts 355pts
<b>OTHER VEHICLES</b>		
<b>SHERIDAN</b> M551(1967) M551A1	152mmHow. Heat. Shillelagh ATGW (8). cMG,pHMG. LFC. S1. 3 / 1 / 0. B A D. HM. SD1. IINF,IRD. Sn. 16t. 70km/hr. 1972 - Replace S1 with S2. 1990 - Replace SD1 with SD2 and IINF,IRD with TI,IID.	380pts 455pts 490pts
<b>BULLDOG</b> M41(1952)	76mm. HVAP,Heat. cMG,pHMG. BFC. 3 / 1 / 1. B A C. HM. Sn. 23t. 72km/hr. 1995? - Add:- APFSDS.	175pts. 245pts
<b>CHAFFEE</b> M24(1945)	75mm. APC. cMG,bMG,pHMG. BFC. 2 / 1 / 1. B B D. SM. 19t. 55km/hr.	165pts
<b>STINGRAY</b> (1989)	(Thailand). 105mmLt. APFSDS,Heat. cMG,pHMG. IFC. S2. 4 / 2 / 1. B A D. VHM. SD2. IINF,IID. NBC. 21t. 67km/hr. 1993NP - Replace IFC with AFC, IINF with TI and SD2 with SD3. Add:- LD.	395ps 440pts

### **NEW VEHICLES (Armoured Gun System)**

M8 - AGS (1999?)	105mmLt. AL. APFSDS,Heat,Hesh. cMG,pMG. AFC. S3. 6 / 2s1 / 1. B B D. VHM. SD2(A). T1,IID. LD. NBC. 20t. 70km/hr.	485pts
The above vehicle is classed as Level 1 protection.		
Level 2	Armour will be 7 / 3s1 / 1.	500pts
Level 3	Armour will be 9 / 5s1 / 1.	530pts

### **OLD SHERMAN VEHICLES**

M4A3E8	76mm. HVAP. cMG,bMG,pHMG. 4 / 2 / 1. B A D. SM. 32t. 48km/hr.	175pts
FIREFLY	17Pdr. APDS. cMG,pHMG. 4 / 2 / 1. B A D. SM. 32t. 48km/hr.	180pts

## **YUGOSLAVIA**

Prior to the Civil War, Yugoslavia was producing a licence built T-72A (called the M-84). In 1988 a modified version, the M-84A, entered production which had significant improvements over the T-72A. The only export customer for the M-84A was Kuwait who ordered 200 vehicles nearly half of which were delivered to the Kuwaiti army in Saudi Arabia and took part in the liberation of Kuwait.

In 1990 it was revealed that a new tank the V-2001 was under development and should enter production by 1996. However, with the advent of the Civil War the actual stage of development is now uncertain.

M-84 (1985)	As Soviet T-72A with IRNF,IRD replaced by IINF,IID and speed is 65km/hr.	490pts
M-84A (1989)	125mmS(L/D). AL. APFSDS,Heat. cMG,pHMG. IFC. S2. 12c2 / 4s2 / 2. B A C. HM. SD2,SG. IINF,IID. LD. Sn. NBC. DZB. 42t. 65km/hr.	545pts
T-55 (1984)	100mmS(L/D). APFSDS,Heat. cMG,pHMG. IFC. S2. 7 / 3 / 2. B A D. SM. SG. IINF,IID. LD. Sn. NBC. 36t. 50km/hr.	380pts

## **TANKS IN SERVICE WITH OTHER NATIONS**

### **AFGHANISTAN**

T-54, T-55, T-62, PT-76 and old WWII T34/85s.

### **ALBANIA**

T-54, Type-59, and Type-63 as well as the old T34/85 tanks of WWII.

### **ALGERIA**

T-54, T-55, T-62, T-72 and old WWII T34/85s.

### **ANGOLA**

T-54, T-55, T-62, PT-76 and the old WWII T34/85s.

### **AUSTRALIA**

Leopard AS1

### **BAHRAIN**

M60A3s.

### **BANGLADESH**

T-54, T-55, Type-59 and Type-62s.

### **BOLIVIA**

Jagdpanzer SK-105.

### **BULGARIA**

T-54, T-55, T-62 and T-72s while the old T34/85s are in reserve and also used for training.

### **BURMA**

WWII Comets.

### **CAMBODIA**

T-54, T-55, Type-59, Type-63 and PT-76s.

### **CANADA**

Leopard C-1

### **CHAD**

T-55s.

### **CHILE**

AMX-30, M3 Stuart, M4 Modified Sherman, M51 Sherman(Ex Israeli), M41A3 and M24 s with 60mm HV Israeli gun.

**COLOMBIA**

M3A1 Stuarts.

**CONGO**

T-54, T-55, Type-59, Type-62 and PT-76s while the old T34/85s are held in reserve.

**CUBA**

T-54, T-55, T-62, T-72, PT-76 and old WWII T34/85s and IS-2s the latter being in the reserve.

**CZECHOSLOVAKIA**

T-54, T-55, T-72 and PT-76s and again T34/85s used for training and in reserve.

**DOMINICAN REPUBLIC**

AMX-13 (FL-10) and M41s.

**ECUADOR**

AMX-13 (FL-12), M41, with M3A1 Stuarts in the reserve.

**ETHIOPIA**

T-54, T-55, T-62, T-72, M47 and old T34/85s. However, due to the current situation the exact status and in service details of these vehicles is uncertain.

**GREECE**

AMX-30, Leopard 1A4, M24 Chaffee, M48A1/M48A3/M48A5, M60A1 plus M47s and M26s which are used by the National Guard. In 1992 the M48A5s will be as the Spanish M485E and fitted with T1.

**GUATEMALA**

M41A3 and M3A1 Stuarts.

**GUINEA**

T-54, PT-76 and old WWII T34/85s.

**HUNGARY**

T-54, T-55, and T-72s with T34/85s used for training and in the reserve.

**INDONESIA**

Indonesia is to place an order for new Scorpion vehicles (including Scorpion 90s) early in 1995.

**IRAN**

M47/M47M, M48/M48A5, M60A1, T-54, T-55, T-62, T-72, Type-59, PT-76 and Type-69 II while the Chieftain Mk3/3 and Mk5/5 are to be phased out of service within the next 2/3 years. The Revolutionary Guard T-55s are being upgraded to the T-55(M) 1974 Soviet standard. It has been reported that Iran has built an MBT which is believed to be at the prototype stage of its development.

**JORDAN**

Tariq (Centurion), M48, M60A1/M60A3 and Khalids.

**KENYA**

Vickers Mk 3.

**KUWAIT**

Chieftain Mk 5, Vickers Mk 1, M-84 (Yugoslavian T-72) and M1A2s on order for 1995/6. The Soviets are negotiating with Kuwait to update the M-84 fleet to the T-72B1 standard.

**LAOS**

T-54/55, PT-76 and old WWII T34/85s.

**LEBANON**

AMX-13 (FL-10), M41, T-54 and M48A5s which are also in the reserve.

**LIBYA**

T-54, T-55, T-62, T-72 as well as old WWII T35/85s. used for training.

**MALAYSIA**

At the moment Malaysia does not operate any MBTs but it is reported that they will be ordering (early 1995) around 66 T-72 vehicles which will either be the Czech T-72M2 or the Polish PT-71.

**MEXICO**

M3A1 and M5A1 Stuarts.

**MOROCCO**

AMX-13, M48A3/M48A5, T-54, T-55 and Jagdpanzer SK 105.

**MOZAMBIQUE**

T-54, T-55 and old WWII T34/85s.



## **NETHERLANDS**

Leopard 2 with Leopard 1s in the reserve. A contract has been signed with Germany to upgrade 180 Leopard 2s to the 'Improved' standard with an inservice date of 1995/6.

## **NICARAGUA**

T-54, T-55 and PT-76s.

## **NIGERIA**

T-55 and Vickers Mk 3.

## **OMAN**

Chieftain Mk 7/2C and Mk 15, M60A1 and Challenger 2 on order for 1995?

## **PARAGUAY**

M3A1 Modified Stuarts, M4A3 Shermans and Sherman Firefly.

## **PERU**

AMX-13 (FL-10 and FL-12), T-54 and T-55s.

## **PORTUGAL**

M48A5 and M47s.

## **QATAR**

AMX-30S.

## **SAUDI ARABIA**

AMX-30S, M60A3 and M1A2 on order for completion late 1995.

## **SOMALIA**

T-54, T-55, M47 and old WWII T34/85s.

## **SUDAN**

M60A1/M60A3, T-54, T-55, Type-59, Type-62, Type-63, and M47s.

## **SYRIA**

T-54, T-55, T-62, T-72, PT-76 and old WWII T34/85s used for training and in reserve.

## **TANZANIA**

Type-59, Type-62 and T-54s.

## **THAILAND**

M41/M41A1/M41A2/M41A3, M48A5, M60A1, Type-59, Type-69 II and Stingrays. Thais are not happy with the Type69s which have proved unreliable and they are looking for a buyer so that they can replace them with a Western designed tank. An option they are actively pursuing is the purchase of surplus Leopard 1s from Germany or M60A3TTS vehicles from US stocks, the latter being the most likely.

## **TUNISIA**

M48A3, M60A1/M60A3 and Jagdpanzer SK-105s.

## **UGANDA**

T-54, T-55 and old WWII M4 Shermans and T34/85s.

## **UNITED ARAB EMERATES**

AMX-30, OF-40 Mk2 and Leclercs on order for 1995?

## **URUGUAY**

M3A1 Stuarts, M24 Chaffee and M41A1 (90mm).

## **VENEZUELA**

AMX-30, AMX-13 (FL-10), Scorpion 90s and M48A1 in the marines.

## **VIETNAM**

M48, T-54, T-55, T-62, Type-63, Type-59, PT-76 and old WWII T34/85s. The status of the American supplied equipment is in doubt at the present time.

## **YEMEN**

T-54, T-55, T-62, M60A1 and old WWII T34/85s.

## **ZAIRE**

Type-62.

## **ZAMBIA**

T-54, T-55, Type-59, PT-76 and old WWII T34/85s.

## **ZIMBABWE**

T-54, T-55, Type-63, Type-59 and old WWII T34/85s.

# TANK DESTROYERS

The vehicles listed in this section are dedicated Tank Destroyer vehicles only. There are many other vehicles in other sections of this book which mount heavy weapons and/or ATGWs which may also operate as Tank Destroyers but I did not consider this to be their primary role. It should be remembered that almost any vehicle may be mounted with a TOW or MILAN type missile and also that many light tanks were initially designed as tank destroyers but in most cases they have not been extensively used in this role.

NOTE:- In this section the vehicle is tracked unless stated otherwise.

Warsaw Pact Countries:- The only Tank Destroyer listed as being in service with the Warsaw Pact countries is the BRDM-2 (SAGGER).

## AUSTRIA

PANDUR - HOT (1994NP)	6 x 6. Turret mounting 4 x HOT 2T ATGW (4 + 8) may reload under armour. 1 / 1 / 0. C B E. HMF. SD2. TI, IIR. NBC. 14t. 100km/hr.	345pts
PANDUR - TOW	1994NP - As above but HOT replaced by TOW 2A turret (2 + 8).	320pts

## BELGIUM

Vehicles in current service are the Striker (SWINGFIRE) and M113A1-B (MILAN) ATGW vehicles. The AMX-VCI with Entac was only used by Belgium who also fielded the German Kanone.

AMX-VCI - ENTAC (1960?)	ENTAC ATGW (2 + 4) may not reload if suppressed. pMG. 2 / 1 / 0. C B E. HM. IRD. 15t. 64km/hr.	190pts
AMX-VCI - MILAN (1975?)	Entac replaced by MILAN 1 dismountable launcher, may not reload if suppressed.	255pts

## CHILE

The following vehicle is based on a Piranha 6 x 6 chassis tested in 1988 but there is some doubt as to whether it ever entered production.

PIRANHA - AT (1989NP)	6 x 6. Turret mounting a quad RED ARROW 8 launcher, may reload under armour. fps. rhs. 1 / 0 / 0. B B D. HMF. IIR. Amp. NBC. 11t. 100km/hr.	215pts
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## CHINA

Vehicles in service are the YW534 (HJ-8), WZ504 (HJ-73C) and the WZ551 (HJ-8). Some older vehicles, SU100, ISU-122 and ISU-152, may also be in reserve. The WZ 551 4 x 4 variants may not enter service with the Chinese Army but are being offered for export with either the RED ARROW 8 or 73C missiles. There is some doubt whether the YW 534 missile vehicle (shown in 1988) is based on the YW 531 chassis or is actually the complete YW 531 vehicle which has a similar chassis to that of the YW 534.

TYPE 90 - AT (1994NP)	RED ARROW 8A ATGW (4 + 12) launcher, may reload under armour. 3 / 1s2 / 0. B A D. HM. SD2. IIRNF, IIR. Amp. NBC. 14t. 65km/hr.	290pts
YW 534 (1988)	RED ARROW 8 ATGW (4 + 8) launcher, may reload under armour. 3 / 1 / 0. B B D. HM. SD1. IIRNF, IIR. Amp. NBC. 14t. 65km/hr.	255pts
YW 531H Type 85(1985)	RED ARROW 8 ATGW (4 + 8) launcher, may reload under armour. 2 / 1 / 0. B B D. HM. Amp. 13t. 65km/hr.	220pts
WZ 504 (1988)	RED ARROW 73C ATGW (4 + 12) launcher, may reload under armour. 2 / 1 / 0. C B D. HM. SG. IIRNF, IIR. Amp. NBC. 13t. 65km/hr. 2 x Ground firing posts carried.	235pts
WZ 551 4 x 4. (1989?)	RED ARROW 8 ATGW (4 + 8) launcher, may reload under armour. 2 / 1 / 0. B B D. MMM. SD2. IIRNF, IIR. Amp. NBC. 12t. 85km/hr. If RED ARROW 8 replaced by RED ARROW 73C.	240pts 225pts

## FRANCE

Only vehicle in service is the VCAC(VAB-HOT), but see the French APC section for details of the new MARs family of vehicles. Mephisto and UTM-80 in the following entries are the names of the turrets fitted to the VCAC vehicles, the UTM-80 version being for export.

VCAC-HOT (Mephisto) (1984)	4 x 4. Quad HOT 1 ATGW (4 + 8) may reload under armour. CuMG. 1 / 0 / 0. B B E. MMM. TI, IIR. Amp. NBC. 13t. 92km/hr. 1987 - HOT 1 replaced by HOT 2. 1993 - HOT 2 replaced by HOT 2T or 3.	260pts 280pts 310pts
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UTM-80 (1988)	6 x 6. Quad HOT 2 ATGW (4 + 16) may reload under armour. CuMG. 1 / 0 / 0. B B D. HMM, TI,IID. Amp. NBC. 14t. 92km/hr. 1993 - HOT 2 replaced by HOT2T or 3.	290pts 320pts
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## WEST GERMANY

Vehicles in service are the Jaguar 1 HOT 2 and Jaguar 2 TOW. The Kanone vehicles have now been phased out of service. The Jaguar 1 vehicles were originally armed with the SS-11 ATGWs but between 1978 and 1983 most were converted to take the HOT ATGW system. The Jaguar 2 vehicles with TOW ATGWs were converted from Kanone vehicles between 1983 and 1985.

JAGUAR Rakete(1968)	SS-11 ATGW (2 + 12) may reload under armour. bMG,pMG. OFC. 5 / 2 / 1. C B E. HM. SD1. IRNF,IRD. NBC. 26t. 70km/hr.	270pts
JAGUAR 1 (1979)	HOT 1 ATGW (1 + 19) may reload under armour. bMG,pMG. OFC. 5s2 / 2s2 / 1. C B E. HM. SD1. IRNF,IRD. NBC. 26t. 70km/hr. 1985 - IRNF,IRD replaced by TI,IID. 1986 - As 1985 but HOT 1 replaced by HOT 2 ATGW.	370pts 400pts 420pts
JAGUAR 2 (1984)	TOW 2 ATGW (1 + 19) may reload under armour. pMG. OFC. 5s2 / 2s2 / 1. C B E. HM. SD1. TI,IID. NBC. 26t. 70km/hr.	415pts
KANONE (1965)	90mmf. Heat,Hesh. cMG,pMG. OFC. 5 / 2 / 1. C B D. HM. SD1. IRNF,IRD. NBC. 28t. 70km/hr.	295pts
Belgium (JPK-90)	1976 - As Kanone but OFC and IRNF,IRD replaced by LFC and IINF,IID, weight 26t. Add:- FL.	325pts
KANONE OP	As Kanone but no 90mm or cMG, remove OFC and size is C B E.	195pts

## IRAQ

Vehicles in service are the VCR/TH (HOT), BRDM-2 (SAGGER) and the BRDM-3 (SPANDREL). However, it is not clear whether the VCRs are still in service as many were destroyed during the Gulf War.

VCR/TH (1984?)	6 x 6. Turret mounted Quad HOT 1 launcher (4 + 10) may reload under armour. CuMG (at rear). 1 / 0 / 0. C B E. HMM. SD1. TI,IRD. Amp. NBC. 90km/hr.	275pts
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## JAPAN

TYPE-60A/B (1961)	Twin US 106mmRCLs(L/D). Heat. RFC. 1 / 1 / 0. D C E. SM. 8t. 45km/hr.	235pts
TYPE-60C	1976 - As Type-60 but SM replaced by HM and speed 55km/hr. Add:- IRNF.	260pts

## MOROCCO

Vehicles in service are the BRDM-2 (SAGGER) and the UR-416 Cobra.

UR-416 (Cobra)	4 x 4. COBRA 2000 ATGW (1 + 4) launcher, may not reload if suppressed. 1 / 0 / 0. C B E. MMM. 8t. 81km/hr.	130pts
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## NORWAY

The only vehicle in service is the NM-142 (M113A1) with the Eureka Twin TOW launcher.

NM 142 TOW	TOW 2 ATGW (2 + 10) launcher, may reload under armour. 2 / 1 / 0. C B D. HM. SD1. IRD. Amp. NBC. 11t. 63km/hr. A TOW ground firing post is also carried. 1995 - TOW 2 replaced by TOW 2A and add:- CuHMG, TI and 2 x 7 round rocket pods (2.75" rockets).	270pts 365pts
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## OMAN

The only vehicle in service is the VAB (MILAN).

VAB (Milan)	4 x 4. Pintle mounted MILAN 2 ATGW (2 + 8), may not reload if suppressed. 1 / 0 / 0. B B E. MMM. IID. Amp. NBC. 13t. 92km/hr.	255pts
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## ROMANIA

There has been no pictures of the TAB-77 ATGW vehicle and very little description, therefore the data given below may not be completely correct and it may be that this vehicle is just a standard TAB-77 with twin SAGGER launchers fitted on the back of the turret.

TAB 77 (1980?)	8 x 8. AT-3C Twin SAGGER Launcher (2 + 8?) may not reload if suppressed. 1 / 0 / 0. C B D. HMM. IRNF,IRD. Amp. NBC. 12t. 95km/hr.	210pts
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## SAUDI ARABIA

Vehicles in service are the VCC-1 (TOW) and the AMX-10 (HOT).

AMX-10 HOT	Turret mounted Quad HOT 1 launcher (4 + 14) may reload under armour. LFC. 3 / 1 / 0. B B D. HM. SD1. IINF,IRD. Amp. NBC. 15t. 65km/hr.	315pts
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## SOUTH AFRICA

The only vehicle in service is the Ratel ZT3.

RATEL ZT3 (1988)	6 x 6. Triple SWIFT ATGW (3 + 12) turret, may reload under armour. cMG. LFC. 2 / 1 / 1. MR. B A D. HMF. SD1. IRNF,IRD. 19t. 105km/hr. 1995? - If ZT-3 replaced by ZT-4. 1996? - If ZT-4 fitted with tandem warhead.	390pts 450pts 455pts
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## SOVIET

Most of the vehicles listed below are in service or in the reserve as is the case with the ASU-85 and the SU-100 vehicles. The Naval infantry use the BRDM-2 (SAGGER) and the BRDM-3 (SPANDREL) vehicles. The Shturm C is the latest Soviet TD and is based on an MT-LB chassis and fitted with the AT-6 SPIRAL missile system which is also capable of engaging slow flying helicopters at up to low/transit level. There has been reports that a new version mounting a twin launcher may be in service. The ASU-85 vehicles are all now thought no longer to be in service but may be in reserve.

SHTURM C MT-LB(1989)	AT-6A SPIRAL ATGW (1 + 12) may reload under armour. 2 / 1 / 0. C B E. SM. IINF,IID. Amp. NBC. 12t. 62km/hr.	295pts
BRDM2 (1971)	4 x 4. AT-3B SAGGER ATGW (6+8). 1 / 0 / 0 C B D. MMF. IRNF,IRD. Amp. NBC. 7t. 100km/hr. 1976 - AT-3B replaced by AT-3C (6 + 10) missiles. 1985 - AT-3C replaced by AT-3C 'P' version.	165pts 210pts 225pts
BRDM2 (1973)	As BRDM2 1971 above but AT-3B replaced by Improved AT-2C SWATTER ATGW (4 + 4) with R/IR guidance.	200pts
BRDM2(3) (1976)	As BRDM2 but SAGGER launcher replaced by a turret mounting AT-5 SPANDREL ATGWs (5 + 10). 1992 - AT-5 replaced by AT-5A.	225pts 290pts
IRAQ	As BRDM2(3) above but launcher has (4 + 6) SPANDREL and (1 + 8) SPIGOT ATGWs.	220pts
All the above variants of the BRDM2 can be reloaded under armour and missile controller can be up to 80m from the vehicle and fire missiles from full defilade.		
BRDM1 (1960)	4 x 4. AT-1 SNAPPER ATGW (3 + 4) 1 / 0 / 0. MMM. Amp. 6t. 80km/hr.	130pts
BRDM1 (1964)	SNAPPER replaced by AT-2A SWATTER ATGW (4 + 4). 1967 - AT-2A replaced by AT-2B.	115pts 135pts
BRDM1 (1964)	As 1964 but SWATTER replaced by AT-3B SAGGER ATGW (6 + 8).	120pts

All the above variants of the BRDM1 may not be reloaded if suppressed. Missile controller may be up to 80m from the vehicle and the missile may then be fired from full defilade.

ASU-85 (1961)	85mmf(L/D). HVAP,APHE. cMG. BFC. 2 / 1 / 0. B B D. SM. IRNF,IRD. NBC. 16t. 45km/hr. 1966? - add:- pHMG and SD1.	160pts 180pts
ASU-57 (1953)	57mmf(L/D). HVAP. pMG. BFC. 1 / 0 / 0. O.Top. C C D. SM. LGP. 3t. 45km/hr.	130pts
SU-100	100mmf. Heat. BFC. 5 / 2 / 2. C B D. SM. 32t. 55km/hr.	230pts

## SWEDEN

The only vehicle in service is the PvRBV 551 (TOW). Although a proposal has been made for a TD based on the CV90 chassis and armed with a 105mm gun this has not been accepted as yet and no prototype has been built.

IKV-91 (1976)	90mmLt. Heat. cMG,pMG. LFC. 3 / 1s2 / 1. C B D. HM. SD1. Amp. 16t. 65km/hr.	270pts 280pts
KV-105 (1988?)	105mmLt. APFSDS,Heat. cMG,pMG. LFC. S2. 3 / 1s2 / 1. C B D. HM. SD1. FL. LLTV,IRD. Amp. 18t. 65km/hr.	370pts
PvRBV 551 (1985)	Improved TOW(71C) ATGW (1 + 15) may reload under armour. pMG. 2 / 1 / 0. C B E. SM. SD1. IINF,IID. 10t. 55km/hr.	295pts

## SWITZERLAND

The only vehicle in service is the MOWAG PIRANHA (TOW)

PIRANHA (1990)	6 x 6. TOW 2A ATGW (2 + 8) launcher, may reload under armour. 1 / 0 / 0. B B D. HMF. IINF,IID. Amp. NBC. 11t. 100km/hr. TOW ground firing post also carried.	275pts
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## TAIWAN

Vehicles in service are the Commando V-150 (TOW), M42A2 (TOW) and the old M18 Hellcat. The M42A2 is the US SPAA vehicle which has had its AA guns removed and replaced by a TOW ATGW launcher.

M42A2 TOW	TOW(71B) ATGW (1 + 14) may reload if suppressed. pMG. 1 / 0 / 0. O.Top. B A E. HM. IINF,IRD. 20t. 72km/hr.	225pts
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## UNITED KINGDOM

Only the Striker and Spartan MCT vehicles are currently in service, but the Spartan MCT is due to be phased out of service in 1994/5.

STRIKER (1976)	SWINGFIRE ATGW (5 + 5) no reloading if suppressed. CuMG. 1 / 1 / 0. C B E. VHM. SD1. IINF,IID. Amp(pre). NBC. 8t. 81km/hr. Missiles may be fired from full defilade.	330pts 350pts 380pts
	1991? - Replace IINF with TI. 1992? - Swingfire replaced by Swingfire 4	
SPARTAN MCT (1986)	Twin MILAN 2 ATGW turret (2 + 11) no reloading if suppressed. CuMG. 1 / 1 / 0. C B E (D if firing MG). VHM. SD2. TI,IID. Amp(pre). NBC. 8t. 81km/hr. Also has 1 x ground firing post for deploying Milan away from the vehicle.	370pts
FV438 (1970)	SWINGFIRE ATGWs (2 + 14) may reload under armour. pMG. 2 / 1 / 0. B B E. HM. SD1. IID. NBC. 16t. 52km/hr.	295pts 315pts
	1980? - Add IINF.	
HORNET (1962)	4 x 4. Twin MALKARA ATGW (2 + 2) launcher, may not reload if suppressed. pMG. 1 / 0 / 0. B B E. MMM. 6t. 64km/hr.	185pts

## UNITED STATES

Vehicles in service with the army are the M901s, M113A1 and M113A2 (TOW) although the M113s may now have been phased out of service. The marines use the LAV (TOW).

A prototype turret mounting Hellfire ATGWs is under test at the moment and if placed into production could be fitted to most IFV and APC type vehicles in service. A further development underway at the moment is the Line-of-Sight Anti-Tank (LOSAT) system mounted on a Bradley chassis and is the planned replacement for the M901. The missile will be a hypervelocity missile (called the KEM) but the system is not planned to start production until 1997/8 which would give an inservice date of 1999.

M-901 (1979)	Improved TOW(71C) ATGWs (2 + 10) may reload under armour. CuMG. 2 / 1 / 0. C B E. HM. SD1. IINF,IID. Amp. NBC. 11t. 63km/hr.	305pts 305pts
	1983 - TOW(71C) replaced by TOW 2.	
M-901A1 (1989?)	As M901(1983) but with TOW 2A ATGWs and IINF replaced with TI. 1992 - TOW 2A replaced by TOW 2B.	330pts 345pts
	Both the above vehicles also carry 1 x ground firing post.	



LAV-TOW (1988)	8 x 8. Twin TOW 2A ATGW (2 + 14) launcher, may reload under armour, a Laser range finder. pMG. 1 / 1 / 0. B A D. HMF. SD2. IINF,IID. Amp. NBC. 13t. 100km/hr. TOW ground mount also carried.	325pts
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### OLD VEHICLES

M36 (1944)	90mm. APHE. pHMG. BFC. 4 / 1 / 1. O.Top. B A D. SM. 28t. 42km/hr.	200pts
M36B2 (1945)	As M36 but armour is 4 / 2 / 1 and O.Top removed.	215pts
M18 (Hellcat) (1944)	76mm. APC. pHMG. BFC. 2 / 1 / 0. C B D. HM. 17t. 88km/hr. (Use the 75mm APC line on the new penetration table).	165pts

## YUGOSLAVIA

Vehicles in service are the BOV-1 (SAGGER) and BRDM-2 (SAGGER) along with older vehicles such as the M36B2 and M18 Hellcat.

BOV-1 (1984)	4 x 4. Launcher with 6 x 9M ATGWs (6 + 6), may not reload if suppressed. cMG. 1 / 0 / 0. C B D. MMM. SD1. IINF,IID. 6t. 95km/hr.	240pts
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## IN SERVICE WITH OTHER COUNTRIES

### BRAZIL

Brazil has no dedicated Tank Destroyers at present. The EE 18 Sucurai TD was developed but never placed in production.

### BULGARIA

Vehicles in service are the BDRM-2 (SAGGER) and the SU-100 SPG although the latter is also classified as SP artillery and may well be in reserve only.

### CANADA

The only vehicle in service is the M113A2 (TOW).

### CUBA

Vehicles in service are the BRDM-2 (SAGGER) and the SU-100.

### DENMARK

The only vehicle in service is the M113 (TOW).

### EGYPT

Vehicles in service are the M901 (TOW), M113 (TOW) and the BRDM-2 (SAGGER), though the latter may well be out of service now.

### GREECE

Vehicles in service are the M113A2 (TOW) and the M901 (TOW), a further 40 of which are to be transferred from surplus US stocks.

### ISRAEL

Vehicles in service are the M113 (TOW), RBY Mk1 (TOW), RBY Mk1 (MAPATS) and some BRDM-2s (SAGGER) there is some question as to whether the latter is still in use. There are also plans to transfer M901s from surplus US stocks.

### ITALY

The only vehicle in service is the M113 (TOW) although the B1 can also be used in this role.

### JORDAN

The only vehicle in service is the M901 (TOW).

### KOREA (NORTH)

The only vehicle in service is the ASU-57 although the older SU-76, SU-85 and SU-100 vehicles may well still be in use.

### KOREA (SOUTH)

The only vehicle in service is the old M36 vehicle.

### KUWAIT

Vehicles in service are the M901 (TOW) and the M113 (TOW).

### LIBYA

Vehicles in service are the BRDM-2 (SAGGER) and some old ISU-122 and ISU-152 vehicles.

### MEXICO

The only vehicle in service is the Panhard VBL (MILAN) see France APC lists.

**NICARAGUA**

The only vehicle in service is the BRDM-2 (SAGGER).

**PAKISTAN**

Vehicles in service are the M901 (TOW) and the older M36.

**PORTUGAL**

The only vehicles in service are the M113A2 (TOW) and the M901 (TOW).

**QATAR**

The only vehicle in service is the VCAC (HOT).

**SOMALIA**

The only vehicle in service is the M113A2 (TOW).

**SYRIA**

The only vehicle in service is the BRDM-2 (SAGGER) although there are possibly some SU-100s.

**THAILAND**

18 x M901s are to be supplied from surplus US stocks in 1994/5.

**TUNISIA**

The only vehicle in service is the M113A2 (TOW).

**TURKEY**

The only vehicle in service is the M113 (TOW) with the Norwegian Eureka Twin TOW launcher.

**UNITED ARAB EMERATES**

The only vehicle in service is the EE-11 (TOW).

**VENEZUELA**

The only vehicle in service is the old M18 Hellcat.

# INFANTRY and FIRE SUPPORT VEHICLES

This section covers most infantry vehicles such as APCs (Armoured Personnel Carriers), IAFVs (Infantry Armoured Fighting Vehicles) and MICVs (Mechanised Infantry Combat Vehicles) as well as FSVs (Fire Support Vehicles).

There is some confusion between these vehicles so the following is the definitions used for Challenger. Note that there are also vehicles in this section which can also be designated as Tank Destroyers, these are armed with ATGWs, but I have left them in this section as I believe that they would normally operate directly with infantry units that are using the same basic vehicle type.

## APC

Purely a 'Battle Taxi' type vehicle used to transport infantry under light cover, the vehicle normally being proof against small arms fire and shell splinters.

## IAFV & MICV

The difference between these vehicles is very much a grey area and to a large extent the designation used depends on the country using it and to define its own vehicle class.

These vehicles have a similar role to that of the APC but are usually better armoured, giving protection against HMGs and some even light cannon fire as well as shell splinters. They are normally fitted with a turret mounting a HMG or cannon (up to 35mm at present) and some are also fitted with ATGWs. The basic idea of these vehicles is to give infantry units a better ability to defend themselves when mounted and also to increase their fire support when dismounted.

As far as the rules are concerned I have made no distinction between these vehicles but have used the appropriate designation where a country normally uses that designation to describe its own vehicles role.

## FSV

These are normally adaptations of the IAFV/MICV chassis but armed with a heavier weapon (ie. from 25mm cannon to 105mm guns). They are primarily designed to give additional fire support to infantry units. Many of these vehicles are also used or adapted for use in the recce role.

## OP VEHICLES

The points value given for these vehicles does NOT include the points for the OP Team.

## ARGENTINA

Vehicles in service are the AMX-VCI, BDXX, M113A1, VCTP (designed in Germany) and the Fiat 6614, while the marines use LVTP7, VCR-TT and Mowag Roland vehicles.

TAMSE	Tr. 2 + 10. 20mmA. APDS. pMG,CuMG*. fps. rhs. 4 / 2 / 1. B A D. HM. SD1.	
VCTP(1980)	IID. NBC. 28t. 80km/hr.	215pts
	*This is a remote MG mounted at the rear similar to the German Marder.	
VCTP	As above but 3 + 6, no pMG, size B A E. and weight 25t.	205pts

## AUSTRALIA

Vehicles in service are the M113A1, LAV-25 and Bison. Delivery of the LAVs is to start in 1994 while the Bisons should be delivered in 1998.

M113A1 FSV (Scorpion)	Tr. 76mm(Scorpion turret). Hesh,Heat. cMG,pMG. RFC. 2 / 1 / 0. B B D. HM. SD1. IINF,IID. Amp. 13t. 64km/hr.	250pts
M113A1 FSV	As above but with 76mm Saladin turret. IINF,IID replaced by IRD only.	225pts
M113A1 LRV	As FSV but 76mm replaced by tuHMG and IINF,IID replaced by IRD only.	160pts
M113A1 APC	As FSV but 2 + 11 and 76mm replaced by TwtuMGs (no cMG) and IINF,IID replaced by IRD only.	155pts
	1995/6:- Above LRV and APC vehicles replace IRD with IINF,IID.	+25pts

## AUSTRIA

Vehicles in service are the Saurer 4K7FA and the 4K7FAG-1 and 2. The 4K7FAG-127 is an up-armoured version of the 4K4FA. Both prototypes of the Pandur vehicle were captured by Iraq in the Gulf War and its present state of development is uncertain. Austria is also developing (with Spain) a new vehicle called the ASCOD which is detailed in the International section.

4K7FAG-127 (1978)	Tr. 2 + 8. pHMG,pMG. rhs. 3 / 1 / 0. C B E. HM. SD1. IID. NBC. 15t. 70km/hr.	175pts
FU-Comm	Command vehicle as G-127 above.	
KSPz MICV	1982 - As above but 3 + 7 and add:- fps.	175pts
MICV 127	1985 - As above MICV but pHMG replaced by tuHMG.	180pts

MICV 30 (1994NP)	As MICV-127 but tuHMG replaced by 30mmA(Rarden) firing APDS, cMG. size C B D. and add:- IINF. 1997? - APDS replaced by APFSDS.	255pts 265pts
FSV 90 (1994NP)	Tr. 90mmLt. APFSDS,Heat. cMG. LFC. 4 / 1 / 0. C B D. HM. SD1. IINF,IID. NBC. 16t. 70km/hr.	300pts
4K4FAG-1 (1962)	Tr. 2 + 8. CuHMG,pMG. rhs. 2 / 1 / 0. C B E. HM. 13t. 65km/hr.	150pts
4K4FAG-2 (1966?)	As G-1 but replace CuHMG with 20mmA, size is C B D.	160pts
4K3FA	Command vehicle as G-1 but no CuHMG	130pts
<b>PANDUR FAMILY</b>		
APC (1986NP)	6 x 6. 2 + 8. fps. rhs. 1 / 1 / 0. C B E. HMF. LGP. IID. NBC. 13t. 100km/hr.	130pts
MICV-127 (1994NP)	6 x 6. 2 + 8. tuHMG,cMG. fps. rhs. 1 / 1 / 0. C B D. HMF. SD2. LGP. IINF,IID. NBC. 13t. 100km/hr.	190pts
FSV (1994NP)	6 x 6. 90mmLt. APFSDS,Hesh. cMG,CuMG. LFC. 1 / 1 / 0. C B D. HMF. SD2. TI,IID. NBC. 14t. 100km/hr. If CuMG replaced by CuHMG.	310pts 315pts

## BELGIUM

Vehicles in service are the AIFV, M113A1-B and Spartans. The DBX (a licenced version of the Irish Timoney) is used by the Gendarmerie and Air Force. The M113A1-B basic APC is as the US M113A1/2 with roof hatches on some vehicles. The SIBMAS vehicle is no longer in production the only sale being to Malaysia.

M113A1-B (Milan) (Radar)	Tr. pHMG. MILAN 1 ATGW (dismountable) may not reload if suppressed. rhs. 2 / 1 / 0. C B D (E if Milan only can be fired). HM. 2 x FL. IRD. Amp. 11t. 63km/hr. As above but GSR in place of Milan launcher.	285pts 315pts
AIFV - B (1985)	Tr. 2 + 8. 25mmA. APDS. cMG. fps. rhs. 3s2 / 1s2 / 0. B B C. HM. SD1. IINF,IID. Amp. NBC. 14t. 61km/hr.	235pts
AIFV - B (Milan)	As AIFV above but 25mmA replaced by CuHMG and MILAN 2 ATGW launcher (dismountable), may not reload if suppressed.	365pts
SIBMAS(FSV) (1984)	6 x 6. 3 + 11. 90mmLt. Heat,Hesh. cMG,pMG. fps. BFC. 2 / 1 / 0. B A D. HMF. SD1. IRD. Amp. 18t. 100km/hr. 1989 - Add:- APFSDS and change BFC for LFC.	210pts 255pts
BDX (1979)	4 x 4. 2 + 10. pMG. fps. 1 / 0 / 0. B B E. MMF. SD1. Amp. NBC. 11t, 100km/hr.	105pts.

## BRAZIL

Vehicles in service are the M59 and M113. The EE-11 Urutu is used by both the army and the marines and the marines also use the LVTP7. The early version of the Churrua was known as the XMP-1 but was never placed in production. The EE-11 Urutu is known as the CTRA by the Brazilian army.

CHARRUA (1994NP)	Tr. 2 + 9. pHMG. fps. rhs. 3 / 1 / 0. C B D. HM. SD2. IID. Amp. 18t. 70km/hr. If up armoured:- 3 / 2 / 0.	175pts 180pts
URUTU EE-11(1975)	6 x 6. 1 + 12. pHMG. fps. rhs. 1 / 1 / 0. B A D. HMF. LGP. SD1. IID. Amp. 14t. 05km/hr. Gabon - pHMG replaced by tu20mmA. AP. and add:- pMG. Uruguay - pHMG replaced by :- tu60mmGM firing Heat (APFSDS after 1988) and Size is B A C.	145pts 165pts 165pts
FSV Tunisia & Venezuela	6 x 6. 3 + 5. 90mmLt. Heat,Hesh. cMG. LFC. fps. 2 / 1 / 0. B A C. HMF. SD1. SD1. IID. Amp. 15t. 105km/hr. 1988 - Add:- APFSDS.	235pts 250pts

## BULGARIA

Vehicles in service are the BTR-50 and 60, MT-LB, BMP-1, BMP-23 and 23A and BMP-30. BTR-40s are in the reserves and BTR-152s are used by the Internal Security Services. The BMP-23 is based on a re-designed MT-LB chassis and the BMP-30 vehicle is as the BMP-23 but fitted with the complete turret from the Soviet BMP-2 vehicle.

BMP-23 (1985)	Tr. 3 + 7. tu23mmA. AP. cMG. AT-3C(P) SAGGER ATGW (1 + 3) may not reload if suppressed. fps. rhs. 3 / 1 / 0. B A C. HM. SG. IINF,IID. Amp. 15t. 62km/hr.	300pts
BMP-23A	As above but with AT-4B SPIGOT and add:- SD1.	295pts
BMP-30 (1990?)	TR. 3 + 7. 30mmA. AP. AT-5 SPANDREL ATGW (1 + 4), launcher dismountable, may not reload if suppressed. cMG. S2. fps. rhs. 3 / 1 / 0. B A C. HM. SD1,SG. IINF,IID. Amp. NBC. 15t. 62km/hr.	325pts

## CANADA

Vehicles in service are the Cougar, Grizzly, M113, LAVs and Bisons, the latter being used by the Militia. The Canadians have fitted an M113A1 with a LAV 25mmA turret but it has not entered production as of 1993. All these vehicles except the M113s are based on the Swiss Piranha 6 x 6 chassis.

COUGAR FSV(1980)	6 x 6. 76mm. Hesh. cMG. LFC. 1 / 0 / 0. B A D. HMF. SD1. IID. Amp. 13t. 102km/hr.	215pts
GRIZZLY (1980)	6 x 6. 3 + 8. tuHMG. cMG. fps. 1 / 0 / 0. B A D. HMF. SD1. IID. Amp. 11t. 102km/hr.	135pts
LAV-25 (1984)	8 x 8. 3 + 6. tu25mmA. APDS. cMG,pMG. S2. rhs. 1 / 1 / 0. B A D. HMF. SD2. IINF,IID. Amp. NBC. 13t. 100km/hr.	220pts
	1994 - IINF replaced with TI.	240pts
	<b>US Vehicles only (as 1994 above)</b>	
	1995? - Ceramic tiles fitted, armour is 2 / 1 / 0 replace APDS with APFSDS(DU).	270pts
LAV-LOG	1986 - Logistics vehicle pMG only, no IINF and size is B A E.	135pts
LAV-COM	1988 - Command vehicle as LAV-LOG above.	135pts
LAV-EWS	1990 - Electronic warfare vehicle details as LAV-LOG Add:- JAM level 4.	535pts
BISON (1991)	8 x 8. 2 + 8. pMG. rhs. 1 / 1 / 0. B B E. HMF. SD2. IID. Amp. NBC. 13t. 100km/hr.	140pts

## CHILE

Vehicles in service are the Piranha 6 x 6 and 8 x 8, M113A1 and the EE-11 Urutu by the army and the Piranha 8 x 8 and Mowag Roland by the marines. The Carancho may no longer be in service and the VTP-2 APC was built in small numbers only for the police. The following Chilean designed vehicles did not enter production, VTP-1 Orca (6 x 6), BMS-1 Alacran (half track) while the VTP-2 was built for the police only.

### PIRANHA FAMILY

APC (1994)	8 x 8. 1 + 14. CuHMG. fps. rhs. 1 / 1 / 0. B B E. HMF. SD2. IID. 13t. 100km/hr.	150pts
	Marines - As above but add:- Amp.	150pts
	1994NP - CuHMG replaced by tu25mmA firing APDS and add:- pMG.	180pts
FSV (1994NP)	8 x 8. 90mmLt. APFSDS. cMG,pMG. BFC. 1 / 1 / 0. B A D. HMF. SD2. IINF,IID. 13t. 100km/hr.	250pts
FSV (1994NP)	6 x 6. 60mmA. APFSDS. pMG. LFC. 1 / 1 / 0. B A D. HMF. SD2. IINF,IID. 12t. 100km/hr.	295pts

### PIRANHA's produced by MOWAG

APC (1980)	6 x 6. 1 + 12. tuHMG. fps. rhs. 1 / 0 / 0. B B D. HMF. IID. Amp. NBC. 11t. 100km/hr.	130pts
FSV (1983?)	6 x 6. 90mmLt. Heat. cMG,pMG. LFC. 2 / 1 / 0. B B D. HMF. SD2. IINF,IID. Amp. NBC. 12t. 100km/hr.	240pts
CARANCHO 180 (1978)	4 x 4. 2 + 4. 3 x pMG. 0 / 0 / 0. O.Top. C B E. MMF. 4t. 120km/hr.	105pts



# CHINA

In addition to the following vehicles China also operates BTR-60s. The Type 531H APC has been renamed and is now referred to as the Type 85. The Type WZ501 is a direct copy of the Soviet BMP-1 which was acquired by China via Egypt. The YW 531C is also known as the K-63, M1967, M1970 and also the Type 63. The WZ 523 is referred to by the US as the M1984 and is similar to the Belgian Sibmas and the South African Ratel.

**TYPE-90 Family - 1994NP.** These are also referred to as the Type-91.

APC	Tr. 2 + 13. pHMG. fps. rhs. 3 / 1s2 / 0. B A D. HM. SD1. IRNF,IRD. Amp. NBC. 14t. 65km/hr.	175pt
AIFV	As APC but pHMG replaced by 30mmA firing APDS.	205pts

## WZ 501 Vehicles

WZ-501 (1984)	Tr. 3 + 8. 73mmLPG(L/D). Heat. cMG. RED ARROW 73 ATGW (1 + 3) may not reload if suppressed. fps. rhs. BFC. 2 / 1 / 0. C B D. HM. SG. IRNF,IRD. Amp. NBC. 13t. 65km/hr.	285pts
WZ 501A	73mmLPG replaced with 25mmA. AP. Size is B A D. and add:- SD1.	255pts
WZ 506	Command vehicle as WZ 501.	285pts
WZ 503 AIFV (1988)	Tr. 2 + 13. pHMG. fps. rhs. 2 / 1 / 0. C B E. HM. SG. IRD. Amp. NBC. 13t. 65km/hr.	150pts
TYPE 77 (1974)	Tr. 2 + 16. pHMG. fps. rhs. 3 / 1 / 0. B A E. HM. Amp. 16t. 60km/hr.	140pts
TYPE 77-1	As above plus ramps for loading 85mm anti-tank gun.	
TYPE 77-2	As Type 77-1 but gun is 122mm.	

YW534 (1984)	Tr. 2 + 13. pHMG. fps. rhs. 3 / 1 / 0. B B E. HM. SD1. IRNF,IRD. Amp. NBC. 14t. 65km/hr.	170pts
YW 307 (AIFV) (1986)	Tr. 3 + 7. tu25mmA. APDS. cMG. fps. rhs. 3 / 1 / 0. B B C. HM. SD1. IRNF,IRD. Amp. NBC. 15t. 65km/hr.	205pts

## WZ 551 Vehicles (A 4 x 4 version of these has been proposed but as far as is known has not been produced)

APC (1987)	6 x 6. 2 + 11. pHMG. fps. rhs. 2 / 1 / 0. B B E. HMM. IRD. Amp. NBC. 15t. 85km/hr.	130pts
AIFV (1988)	6 x 6. 3 + 9. 73mmLPG(L/D). Heat. cMG. RED ARROW 8 ATGW (1 + 3) may not reload if suppressed. fps. rhs. BFC. 2 / 1 / 0. B B C. HMM. IRNF,IRD. Amp. NBC. 14t. 85km/hr.	310pts
AIFV (1989?)	6 x 6. 3 + 9. 25mmA. APDS. cMG. fps. rhs. 2 / 1 / 0. B B C. HMM. SD2. LLTV,IRD. Amp. NBC. 15t. 85km/hr.	210pts
NGV-1 (1993NP)	6 x 6. 3 + 9. 25mmA. APDS. cMG. S1. 2 / 1 / 0. B B C. HMM. SD2. IINF,IID. Amp. NBC. 15t. 85km/hr.	205pts
YW 531H Type85(1984)	Tr. 2 + 13. pHMG. fps. rhs. 2 / 1 / 0. B B E. HM. IRD. Amp. NBC. 14t. 65km/hr.	140pts
YW 309 Type85 AIFV (1986)	Tr. 3 + 8. 73mmLPG(L/D). Heat. cMG. RED ARROW 73C ATGW (1 + 3) may not reload if suppressed. BFC. fps. rhs. 2 / 1 / 0. B B D. HM. IRNF,IRD. Amp. NBC. 15t. 65km/hr.	305pts
YW 531C K-63 (1967)	Tr. 2 + 13. pHMG. fps. 2 / 1 / 0. B B E. HM. IRD. Amp. 13t. 65km/hr.	140pts
Type 701	Command vehicle as YW 531C but pHMG replaced by pMG.	130pts
Type 701A	Command vehicle as YW 531C.	140pts
WZ 523 (1984)	6 x 6. 2 + 10. pHMG. fps. rhs. 1 / 0 / 0. B A D. HMM. IRD. Amp. 11t. 80km/hr.	110pts
TYPE 56	1952 - This is a copy of the Soviet BTR-152.	
TYPE 55	1952 - This is a copy of the Soviet BTR-40.	

## CZECHOSLOVAKIA

Vehicles in service are the OT-90 (BVP-1 and 2) which are copies of the Soviet BMP-1 and 2, OT-62 and 64, OT-810 and MT-LB. The OT-62 is identical to the Soviet BTR-50PU.

OT-90 (BPV-1)	Tr. 3 + 8. tu14.5mmHMG. cMG. fps. rhs. 2 / 1 / 0. C B D. HM. SG. IRNF,IRD.	
BPV-2	Amp. NBC. 14t. 65km/hr.	180pts
OT-64A (SKOT)	As Soviet BMP-2 but add:- IINF,IID in place of IRNF,IRD.	330pts
	8 x 8. 2 + 18. pMG. fps. rhs. 1 / 1 / 0. B A E. MMM. Amp. NBC. 14t. 95km/hr.	90pts
OT-64C (SKOT 2A)	1964:- With AT-3B SAGGER ATGW (2 + 2), may not reload if suppressed.	140pts
	8 x 8. 2 + 15. tu14.5mmHMG. cMG. fps. rhs. 1 / 1 / 0. B A D. MMM. 15t. 95km/hr.	115pts
OT-64 R-2M	Morocco - As OT-64C but tu14.5mm replaced by tuMG and 82mm RCL mounted on the turret, may not reload if suppressed. Add:- RFC and IRNF.	180pts
OT-62A Topas(1964)	Command vehicle as OT-64A.	90pts
	Tr. 2 + 18. fps. rhs. 2 / 1 / 0. C B D. SM. SG. IRD. Amp. NBC. 15t. 58km/hr.	120pts
OT-62B	With 82mm RCL fitted to rear deck (no loading if suppressed) and Add:- RFC.	190pts
	As OT-62A but add:- IRNF and tuMG and 82mmRCL with RCL mounted on the turret side, RCL may not reload if suppressed.	220pts
OT-810	Half Tr. 2 + 10. pMG. fps. rhs. 1 / 0 / 0. C B E. HMS. 9t. 53km/hr.	100pts
	If fitted with dismountable 82mmRCL(L/D). Add:- RFC. Size is C B D.	170pts

## DENMARK

Vehicles in service are the M113 and M113A1 and A2.

M113A2	Tr. 2 + 11. 25mmA. AP. cMG. rhs. 2 / 1 / 0. C B D. HM. IINF,IID. Amp. 11t. 61km/hr.	185pts
	1989 - Replace AP with APDS.	205pts

## EGYPT

Vehicles in service are the Fahd, BTR-40/50/60/152, BMP-1, OT-62/64, M113A1/A2 and BMR-600. Walid Mk 1 and 2 are used by the National Guard while the Internal Security Services use the UK Hotspur and Hotspur Hussar. The Fahd was designed by the Germans and was based on their TH390 design and is to replace the Walid and BTR-40s. The Walid is similar to the BTR-40 but sloping sides on the troop compartment. It is believed that surplus Dutch YPR-765s may be sold to Egypt in 1995 to replace most Soviet vehicles.

FAHD (1986)	4 x 4. 2 + 10. fps. rhs. 1 / 0 / 0. C B E. MMM. SD1. IRD. NBC. 11t. 90km/hr.	95pts
FAHD-20	4 x 4. 2 + 10. tu20mmA. APDS. fps. 1 / 0 / 0. C B D. MMM. SD1. IID. 11t. 90km/hr.	140pts
FAHD-30 (1993)	4 x 4. 3 + 7. 30mmA*. AP. AT-5 SPANDREL ATGW (1 + 4) dismountable. cMG. S2. fps. 1 / 0 / 0. C A D. MMM. SD3. LD. IINF,IID. NBC. 12t. 85km/hr.	305pts
	*This is a complete turret from the Soviet BMP-2 with basic Spandrel.	
WALID (1962)	4 x 4. 2 + 8. pMG. fps. 1 / 0 / 0. O.Top. C B E. MMM. 6t. 86km/hr.	85pts
M113A2	Tr. 2 + 11. pHMG. rhs. 2s1 / 1s1 / 0. C B E. HM. IRD. Amp. NBC. 11t. 61km/hr.	155pts

## EL SALVADOR

Vehicles in service are the VAL, UR-416 (10 only) and the M114 the latter being re-built in El Salvador into various configurations. El Salvador also uses a number of Armoured trucks which are German 6 x 6 truck chassis with an armoured body. They carry a crew of 2 plus 18 troops and are armed with a pMG.

VAL (APC) (1985)	4 x 4. 2 + 8. fps. 0 / 0 / 0. O.Top. C B E. MMM. 5t. 80km/hr.	65pts
VAL (FSV)	4 x 4. 2 + 8. tuHMG. 2 x pMG. 0 / 0 / 0. B B D. MMM. 5t. 80km/hr.	110pts

## FINLAND

Vehicles in service are the XA-180, BTR-50, BTR-60PB, BTR-80, BMP-1 and 2, MTLB and MT-LBV.

SISU-XA-180 (1984)	6 x 6. 2 + 10. fps. rhs. 2 / 1 / 0. C A E. HMF. SD1. IRD. Amp. NBC. 16t. 100km/hr.	125pts
	If fitted with CuHMG, Size is B A D. (Mainly used by UN forces).	140pts
	Some fitted with roof mounted AT-4B SPIGOT ATGW (1 + 2), may not reload if suppressed.	+ 100pts

## FRANCE

Vehicles in service are the AMX-10P and VABs, VABs and VAB-170s are used by the Gendarmerie.

The AMX-VCI was previously known as the AMX-VTP and has been phased out of French army service with a number of them being supplied to Indonesia. The Panhard Buffalo is an improved version of the M3 APC.

The MARS 15 family of vehicles has been designed as a replacement for the AMX-13 family. The first 2 prototypes were produced in 1990 and were the Light Tank/Tank Destroyer and the AIFV with a 3rd prototype, armed with a 105mm gun, being completed in 1992. The EBR-ETT APC was only used by Portugal. (see Portugal section).

### MARS 15 FAMILY

APC (1994NP)	Tr. 1 + 11. tuMG. rhs. 3 / 1s2 / 0. C B D. VHM. SD2?. IINF,IID. NBC. 15t. 75km/hr.	220pts
AIFV (1994NP)	Tr. 3 + 8. 25mmA(CG). APDS. cMG. 3 / 1s2 / 0. B B D. VHM. SD2. TI,IID. NBC. 17t. 75km/hr.	275pts

### AMX-10 FAMILY

APC (1974)	Tr. 3 + 8. Cu20mmA. AP. cMG. rhs. 3 / 1 / 0. B B D. HM. SD1. IINF,IRD. Amp. NBC. 15t. 65km/hr.	190pts
	1994NP - If IINF replaced by TI and weapon has S2.	220pts
	1995 - SD1 replaced by SD2.	230pts
Singapore (25-ICV)	As APC 1974 but Cu20mmA replaced by tu25mmA firing AP.	190pts
Indonesia	Marines 1983 - As APC but Cu20mmA replaced by CuHMG and 2 + 13 troops.	175pts
Command	As APC - Command vehicle with roof mounted generator.	180pts
SAO	1981 - OP vehicle as APC but Cu20mmA replaced by tuMG. Add:- Laser range finder and OTHER positioning.	210pts
VOA	OP vehicle as SAO but IINF replaced by TI.	230pts
FSV	Tr. 3 + 4. 90mmLt. Heat. cMG. LFC. 3 / 1 / 0. B A C. HM. SD1. IINF,IID. Amp.	
PAC-90 (1980)	NBC. 15t. 65km/hr.	265pts
	1983 - Add:- APFSDS.	280pts
	1989 - Armour upgraded to 4s2 / 2s2 / 1s2.	330pts

### AMX-VCI VEHICLES

AMX-VCI (1958)	Tr. 3 + 10. pMG. fps. 2 / 1 / 0. C B E. HM. IRD. 15t. 64km/hr. If pMG replaced by pHMG size is B B E. If pMG replaced by tuMG size is B B E.	135pts 140pts 135pts
VTT/PC	Command vehicle as VCI 1958 with extra aerals.	135pts
VTT/RATAC	Radar vehicle as VCI 1958 but pMG replaced by tuMG, size B B C. Add:- GSR.	285pts
<b>VAB FAMILY</b>		
VAB-VCI (1977)	4 x 4. 2 + 10. CuMG. fps. rhs. 1 / 0 / 0. B B E. MMM. IID. Amp. NBC. 13t. 92km/hr.	100pts
	If CuMG replaced with CuHMG.	105pts
TL 20S	As VCI but CuMG replaced by tu20mmA. AP. Size is B B D.	120pts
T20 Toucan*	As TL 20S but add:- cMG.	125pts
T25 Dragar*	As VCI but CuMG replaced by tu25mmA. AP and cMG. Size is B B D.	125pts
	*Toucan and Dragar refer to the names of the turret types fitted.	

VAB-RATAC	As VCI 1977 but fitted with artillery locating radar.	200pts
VAB-RASIT	As VCI 1977 but fitted with GSR.	250pts
VAB-Bromure	1993 - ECW vehicle as VCI 1977 but fitted with electronic jamming (Jam 4).	500pts

VAB-VTM	As VCI 1977 used for towing 120mm Mortars.	100pts
6x6 APC	6 x 6. 2 + 10. CuHMG. fps. rhs. 1 / 0 / 0. B B E. HMM. IID. Amp. NBC. 14t.	
(1990?)	92km/hr. None in French service as of 1993 but some exported.	120pts
<b>VAB NEW GENERATION</b>		
VAB-NG	4 x 4. 2 + 10. CuHMG. APDS. fps. rhs. 2 / 1 / 0. C B E. MMF. SD2. IID. Amp.	
(1993NP*)	NBC. 14t. 110km/hr.	165pts
VAB-NG	6 x 6 version of the above. Mobility is HMF, Weight is 15t size is B B E.	170pts
(1993NP*)		

\*It is anticipated that all French VABs will be brought up to the New Generation (NG) standard as vehicles are returned for re-build.

## OTHER VEHICLES

VCR-TT2	6 x 6. 2 + 12. tuHMG. APDS. fps. rhs. 1 / 0 / 0. C B D. HMF. IID. Amp. NBC.	
(1993NP)	10t. 110km/hr.	145pts
	If armed with tu25mmA firing APDS plus cMG then troops reduced to 3 + 10.	170pts
VCR/TT	6 x 6. 3 + 9. pMG. fps. rhs. 1 / 0 / 0. C B E. HMM. SD1. IRD. Amp. NBC. 8t.	
(1980)	90km/hr	115pts
	If pMG replaced by tu20mmA firing AP then troops reduced to 3 + 6.	135pts
VCR-APC	4 x 4. 3 + 9. CuMG. fps. rhs. 1 / 0 / 0. C B E. MMF. IRD. Amp. 8t. 100km/hr.	110pts
Argentina (1980)		
	If CuMG replaced by tuMG.	115pts
BUFFALO	4 x 4. 2 + 10. CuMG. 1 / 0 / 0. C C E. MMM. IID. Amp. 7t. 90km/hr.	110pts
(1987)		
VXB-170	4 x 4. 1 + 11. pMG. fps. rhs. 1 / 1 / 0. C B E. MMM. SD1 IRD. Amp. NBC.	
(1972)	13t. 85km/hr. In service with Gabon and Senegal.	110pts
Panhard M3	4 x 4. 2 + 10. pMG. fps. rhs. 1 / 0 / 0. C C E. MMM. SD1. IRD. Amp. 6t.	
(1972)	90km/hr.	110pts
	If pMG replaced by TwtuMGs, size is C C D.	120pts
	If pMG replaced by tu20mmA firing AP plus cMG, size is C C D.	135pts
VBL	4 x 4. 2 + 8. pMG. fps. 1 / 0 / 0. O.Top. C B E. MMM. 7t. 95km/hr.	85pts
AC MAT(1982)		
	If pMG replaced by tuMG and armoured top, size is C B D.	100pts
	If pMG replaced by tuHMG and armoured top, size is C B D.	105pts
Auverland	4 x 4. 2 + 4. pMG. fps. 0 / 0 / 0. C C E. MMF. 2t. 130km/hr.	100pts
A3 (1993NP)		

## WEST GERMANY

Vehicles in service are the Marder 1, Transportpanzer (TPZ-1) and the M113A1. Mowag Sw1 and Sw2 vehicles are used by the Border Guards while the TM-170 and UR-416s are used by the Internal Security Services. The Marder 2 was cancelled in December 1992 but may be re-instated in 1996/7 for an inservice date of 2006. These were to have replaced the East German BMP-1s but the BMPs are now to be modified in Germany and re-named the BMP-1A1 OST. The Transportpanzer is also known as the Fuchs and the NBC version is also in service with the armies of Israel, UK and the USA. Germany is also co-operating with France on the design of a new family of 6 x 6 and 8 x 8 wheeled vehicles which the French call Vextra and the Germans the EXF.

The Puma and TH-495 families of vehicles were designed as private ventures with Puma prototypes being built in 1986 and 1989 and the TH-495 prototype in 1992, neither have entered production as of 1994.

## MARDER VEHICLES

Mk 1	Tr. 4 + 6. Cu20mmA. cMG,CuMG. fps. rhs. 5 / 2s1 / 1. B A D. HM. SD1. IRNF,IRD.	
(1972)	NBC. 29t. 75km/hr.	225pts
TH 397	As Marder 1 but no CuMG.	215pts
Mk A1	Tr. 4 + 5. Cu20mmA. APDS. cMG. dismountable MILAN 1 ATGW Launcher(1 + 5).	
(1983)	may not reload if suppressed. fps. rhs. 5 / 2s1 / 1. B A D. HM. SD1. IINF,IID.	
	NBC. 30t. 75km/hr.	355pts
Mk A1A	1984 - As A1 but IRNF,IRD in place of IINF,IID.	345pts
Mk 1A2	1990 - As Marder A1 but SD1 replaced by SD2 and IINF replaced by TI.	385pts
Mk 1A3	Tr. 4 + 5. Cu20mmA. APDS. cMG. dismountable MILAN 2 ATGW launcher (1 + 5)	
(1990)	may not reload if suppressed. rhs. 6 / 3s1 / 1 / 1T. B A C (D if using Milan only)	

	HM. SD3. TI, IID. NBC. 35t. 65km/hr.	450pts
M113A1 (AOP)	1983 - As US M113A1 plus Laser Rangefinder and Satellite positioning system.	190pts
M577 IFAB	As US M577A2E2 fitted with ADLER artillery management system.	635pts
<b>TRANSPORTPANZER</b>		
TPZ-1 (1976)	6 x 6. 2 + 10. pMG. rhs. 2s1 / 1 / 1. C A E. HMF. SD1. IID. Amp. NBC. 17t. 105km/hr.	150pts
	If pMG replaced by Cu20mmA firing APDS then size is C A D.	180pts
RASIT	Radar vehicle as TPz1 plus GSR and no weapons.	290pts
FUFU	Command vehicle as TPz1 with extra aerals.	150pts
ELOKA	ECM vehicle as TPz1 but no rhs, no Amp but add:- Jam 4.	550pts
Venezuela (1984)	6 x 6. 2 + 12. tuHMG. pMG (mounted at rear). rhs. 2s1 / 1 / 1. C A D. HMF. SD1. 17t. 105km/hr.	160pts
HWK 11	Tr. 2 + 10. pMG. rhs. 2 / 1 / 0. D C E. SM. 11t. 65km/hr.	130pts
Mexico(1965)		
CONDOR (1981)	4 x 4. 2 + 12. pMG. fps. 1 / 0 / 0. C B E. MMF. SD1. Amp. 12t. 100km/hr.	110pts
Malasia (1982)	Either:- pMG replaced by tu20mmA firing AP plus cMG size is C B D. Or:- pMG replaced by TwtuMGs size is C B D.	135pts 120pts
TM 170 (1983)	4 x 4. 2 + 10. pMG. fps. 1 / 0 / 0. C B E. MMF. 11t. 100km/hr. If pMG replaced by tu20mmA firing AP plus cMG size is C B D. If pMG replaced by TwtuMGs size is C B D.	105pts 130pts 115pts
UR 416 (1970)	4 x 4. 2 + 8. pMG. fps. rhs. 1 / 0 / 0. C B E. MMM. 8t. 81km/hr. If pMG replaced by tuMG size is C B D. Add:- SD1.	95pts 105pts
TH 439	Tr. 1 + 9. pMG. fps. rhs. 1 / 0 / 0. C C E. SM. LGP. 6t. 50km/hr.	120pts
TM 125 (1980)	4 x 4. 2 + 10. pMG. fps. 1 / 0 / 0. C B E. MMM. IRD. Amp. NBC. 8t. 85km/hr.	100pts
	If pMG replaced by TwtuMGs size is C B D.	110pts
	If pMG replaced by tu20mmA firing AP size is C B D.	120pts

## GREECE

Vehicles in service are the Leonidas, AMX-10P, M59 and M113/A1/A2. M3 halftracks are used by the National Guard while Mowag Roland and UR-416s are used by the Gendarmerie. The Leonidas vehicles are based on the Austrian Steyr 4K 7FA vehicle and built under licence in Greece.

### LEONIDAS

Mk 1 (1983)	Tr. 2 + 8. pHMG. pMG. rhs. 3 / 1 / 0. C B E. HM. SD1. IID. NBC. 15t. 70km/hr.	175pts
Mk 2	1988 - As 1 above but add:- fps. and SD1 replaced by SD3.	190pts
ELBO Pandur(1994NP)	6 x 6. 2 + 8. CuHMG. cMG. rhs. 1 / 1 / 0. C B E. HMF. LGP. SD3. IID. NBC. 13t. 100km/hr.	175pts

## GUATEMALA

Vehicles in service are the Commando V-150, M113 and Armadillo the latter being a home designed and produced vehicle.

ARMADILLO (1984)	4 x 4. 3 + 13. CuHMG. fps. rhs. 1 / 0 / 0. C B D. MMF. 10t. 100km/hr. If CuHMG replaced by tuHMG plus cMG.	115pts 120pts
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## HUNGARY

Vehicles in service are the PsZH-1V (FUG D-944), BMP-1, MT-LB, BTR-70 and BTR-80. The PsZH-1V is the APC version of the FUG scout car and is some times referred to as the FUG-2.

PSZH-1V (1970)	4 x 4. 3 + 6. tu14.5mmHMG. cMG. fps. rhs. 1 / 0 / 0. C B D. MMM. IRNF,IRD. Amp. NBC. 8t. 80km/hr.	140pts
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## INDIA

Vehicles in service are the BTR-50 and 60, OT-62 and 64, BMP-1 and 2 and some FV432s. An unconfirmed report has stated that India is to purchase some BMD-1s. India began assembling the Soviet BMP-2, called the Sarath, in 1987 with full production being achieved in 1992. The



first versions had the AT-4 SPIGOT ATGW while the later versions, as detailed below, have the AT-5 SPANDREL ATGW. The NAG vehicle is a basic Sarath with the AT-5 replaced by the Indian designed NAG ATGW, however, there has been no details released on this missile and therefore the accuracy of the data given is very much in doubt.

SARATH BMP-2(1988)	Tr. 3 + 7. 30mmA. AP. AT-5 dismountable SPANDREL ATGW (1 + 4) may not reload if suppressed. cMG. S2. 3 / 1 / 0. C B C. HM. SD1,SG. IRNF,IRD. Amp. NBC. 14t. 65km/hr.	325pts
NAG (1995?)	Tr. NAG ATGW (4 + 12) may reload under armour. cMG. 3 / 1 / 0. C B C. HM. SD2,SG. TI,IID. Amp. NBC. 14t. 65km/hr.	400pts

## INTERNATIONAL

The MAK-AV is a joint venture between Italy and Germany while the ASCOD is between Austria and Spain. In 1994 Spain became the first country to order the ASCOD (see Spanish entry)

MAK-AV 90 (1994NP)	Tr. 2 + 10. CuHMG. fps. rhs. 3 / 1s2 / 1. C B D. HM. SD2. IID. NBC. 15t 64km/hr.	190pts
ASCOD (1994NP)	Tr. 3 + 8. tu30mmA. APDS. cMG. S2. IFC. fps. rhs. 5 / 2s1 / 1. B A C. HM. SD2. TI,IID. NBC. 25t. 70km/hr.	335pts

## IRAN

Vehicles in service are the BTR-40/50/60 and 152, BMP-1 and M113A1s (supplied by Vietnam) as well as the home produced vehicles below. An order for BMP-2s was placed in 1992 but it is not certain that any are in service.

Halftrack APC(1985?)	H.Tr. 2 + 24. fps. rhs. 2 / 1 / 0. B A E. HMM. Amp? 20t? 70km/hr?	105pts
Wheeled APC(1988?)	4 x 4. 2 + 10. pMG fps. rhs. 1 / 0 / 0. B A E. MMM. Amp? 10t? 83km/hr?	85pts

## IRELAND

Vehicles in service are the Panhard M3 and Timoney Mk3 while the SISU XA-180 is used by their UN troops.

TIMONEY Mk8(1991NP)	6 x 6. 4 + 18. fps. 2 / 1 / 0. C B E. HMF. Amp. 15t. 100km/hr.	120pts
TIMONEY Mk3(1981)	4 x 4. 3 + 9. TwtuMGs. fps. rhs. 2 / 1 / 0. C B D. MMF. SD1. IID. Amp. 10t. 100km/hr.	145pts
Mk6 (1982NP)	4 x 4. 3 + 9. tuHMG. cMG. fps. rhs. 2 / 1 / 0. C B D. MMF. SD2. Amp. 10t. 100km/hr.	150pts

## ISRAEL

Vehicles in service are the M113A1 and A2, M981 Fist-V, Centurion APC as well as some M3 halftracks. There is speculation that T-55s may also have been converted in a similar manner to the Centurion Nagmashots but there has been no printed reports to substantiate this. BTR-50/60 and OT-64s (with turrets removed) are held in the reserve and Walid Mk1, BTR-40s and BTR-152s are used by the Border Guards.

The M113(I)s were the original M113s supplied by the USA before conversion to the Zelda and Toga formats. The above vehicles may have a 60mm mortar fitted and 1 pHMG replaced by a pAGL.

M113(I)	Tr. 2 + 11. pHMG,2xpMG. rhs. 2 / 1 / 0. C B D. HM. IRD. Amp. NBC. 11t. 63km/hr.	165pts
ZELDA (M113A1)	Tr. 2 + 11. pHMG,2xpMG. rhs. 2 / 1 / 0. C B D. HM. IRD. 11t. 63km/hr. 1988 - Replace IRD with IID and add:- SD2.	165pts 185pts
TOGA (M113A1)	As Zelda 1988 but armour is 2s2 / 1s2 / 0.	205pts
RAMTA (M113A1)	Tr. MAPATS ATGW launcher on telescopic mast (1 + 10) may reload under armour. 2 / 1 / 0. C B E. HM. IRD. 11t. 63km/hr. Ground firing post also carried and uses the sights from the launcher.	325pts
FSV (M163)	Tr. 20mmA(Gatling). AP. pMG. LFC. 2 / 1 / 0. C B D. HM. IINF,IID. 12t. 68km/hr. 12t. 68km/hr.	240pts

<b>CENTURION</b> (Nagmashot)	Tr. 1 + 8. 4xpMG. 2 x 60mm Mortar. rhs. 10E / 4c2E / 3. B A D. SM. SD1. IID.	320pts
FSV (1984)	46t. 43km/hr. Mortars or MGs may be used but not at the same time and none may be used if all the infantry dismount. If 2xpMGs replaced by 2xpHMGs. If 2xpMGs replaced by 2xpAGLs. 1988 - Replace SD1 with SD2 and add:- MR.	330pts 350pts + 30pts
<b>CCV</b>	Command version of the Nagmashot 1984 with extra aerals and generator mounted on the rear deck. Armament is 2 x pMGs only.	280pts
<b>NIMDA</b> BTR-50PK(1990NP)	Tr. 4 + 18. 2xpMG,bMG*. fps. rhs. 2 / 1 / 0. C B D. HM. IINF,IID. Amp. NBC. 13t. 55km/hr.	175pts
<b>OT-64B</b> (APC)	8 x 8. 2 + 18. pHMG*,3xpMG,52mm Mortar. rhs. 2 / 1 / 0. C B C, HMM, IRD. Amp. NBC. 14t. 95km/hr.	175pts
<b>BTR-60A</b> (APC)	8 x 8. 2 + 16. pHMG*,3xpMG,52mm Mortar. fps. 1 / 0 / 0. B B C. HMM. IRD. Amp. NBC. 10t. 80km/hr.	155pts
<b>M3</b>	HTr. 3+10. pHMG,fbMG,2xpMG*. 1 / 0 / 0. C A D. MMM. 9t. 64km/hr. *only these weapons may be used if the troops dismount. * The MGs are mounted one on each side of the vehicle.	135pts

## ITALY

Vehicles in service are the AMX-VCI, VCC-1 and the Fiat 6614 by the army and the LVTP7 and VCC-1 by the marines. Fiat 6614s are used by the Air Force. The VCC-1 is an Italian development of the M113A2. The VCC 80 is proving too expensive and has not been placed into production. However, a more austere version may be produced in its place but armed with TOW 2 missiles as standard.

### NEW VEHICLES

<b>VCC 80</b> (1994NP)	Tr. 3 + 6. tu25mmA. APDS. cMG,pMG. AFC. S2. fps. rhs. 4 / 2s1 / 1. B A C. HM. SD2. TI,IID. LD. NBC. 22t. 70km/hr. If MILAN 2T ATGW (1 + 4) fitted on turret roof, may not reload if suppressed.	345pts 520pts
<b>VCC 80</b> Austere(1995NP)	Tr. 3 + 6. tu25mmA. APDS. cMG. TOW 2A single launchers each side of the turret (2 + 4), no reloading if suppressed. OFC. fps. rhs. 3 / 2s1 / 0. B A C. HM. SD2. TI,IID. NBC. 21t. 70km/hr.	425pts
<b>PUMA</b> (1994NP)	4 x 4. 1 + 6. pMG. fps. rhs. 1 / 0 / 0. D C E. MMF. IID. NBC. 5t. 105km/hr. If pMG replaced by pHMG.	125pts 135pts
<b>PUMA</b> (1994NP)	6 x 6. 1 + 8. pHMG. APDS. rhs. 1 / 0 / 0. D C E. HMF. SD2. IID. nbc. 8t. 100km/hr.	170pts

### VCC CAMILLINO VEHICLES

<b>Mk1</b> (1979)	Tr. 2 + 7. pHMG. pMG(at rear). fps. 2 / 1s1 / 0. C B D. HM. IRD. Amp. 12t. 65km/hr.	160pts
<b>Mk2</b>	As Mk1 but pHMG replaced by CuHMG. 1994 Somalia - Armour is 3 / 2s1 / 0 on the Italian UN vehicles.	160pts 175pts
<b>Mk3</b> (1994NP)	As Mk1 but pHMG replaced by Cu20mmA firing APDS, IRD replaced by IINF,IID and add:- SD2.	220pts
<b>TOW</b> (1984)	Saudi Arabia As Mk1 but with pHMG and pMG replaced by ITOW ATGW turret (as fitted to M901) (2 + 10) plus cMG. Add:- IINF.	295pts

### OTHER VEHICLES

<b>VCC-2</b> (1979)	Tr. 2 + 11. pHMG. fps. rhs. 3 / 2s1 / 0. C B E. HM. IRD. Amp. 11t. 63km/hr.	165pts
<b>FIAT 6614</b> (1975)	4 x 4. 1 + 10. pHMG. fps. rhs. 1 / 0 / 0. D C E. MMF. SD1. IRD. Amp. 8t. 100km/hr. If pHMG replaced by tuMG and SD1 with SD2 and Add:- IINF.	135pts 160pts
<b>MAV 5</b> (1993)	4 x 4. 2 + 4. fps. rhs. 0 / 0 / 0. C B E. MMF. 4t. 100km/hr.	85pts

## JAPAN

Vehicles in service are the Type-60, Type-73 and Type-89. The Type-73 and SU-60 are both being replaced by the Type 89 MICV as they become available.

TYPE-89 (1992)	Tr. 3 + 7. 35mmA. APDS cMG. Type-79 (Jyu-Mat) ATGWs (1 + 1 + 4) either side of turret, may not reload if suppressed. fps. rhs. 5 / 2s1 / 1. B A C. HM. SD2. IINF,IID. NBC. 27t. 70km/hr.	400pts
	1995? - APDS replaced by APFSDS.	410pts
TYPE-87 CCV (1984)	6 x 6. pHMG. pMG. fps. rhs. 1 / 1 / 0. B A D. HMF. IID. 14t. 100km/hr. Command vehicle.	140pts
TYPE -73 (1974)	Tr. 3 + 9. CuHMG. bMG. fps. rhs. 2 / 1 / 0. C B E. HM. SD1. IRNF,IRD. NBC. 13t. 70km/hr.	170pts
	1985? - IRNF,IRD replaced by IINF,IID.	180pts
TYPE-SU60 (1960)	Tr. 4 + 6. pHMG. bMG. rhs. 1 / 0 / 0. C B E. SM. 12t. 45km/hr.	120pts
SU-60 AT	As SU60 but pHMG replaced with 2 x Type-64 ATGW (2 + 4) launchers, may not reload if suppressed.	145pts

## KOREA - SOUTH

Vehicles in service are the KIFV (Type 200), M113, M3 halftracks and Fiat 6614s the latter being licence built in Korea and called the KM-900. Marines use the LVTP7 and 7A. The KIFV is also known as the Type 200 or K-200 and is based on the US FMC Corp AIFV design used by Belgium and the Netherlands. The KM-900 is basically the Italian Fiat-OTO Melara Type 6614 APC produced under licence in Korea where the basic model is the KM-900 while the specialised versions are designated as KM-901.

KIFV Type 200(1985)	Tr. 3 + 7. pHMG. pMG. fps. rhs. 2s1 / 1s2 / 1. B B D. HM. SD1. IINF,IID. Amp. NBC. 13t. 74km/hr.	200pts
KIFV TOW (1994NP)	As above but pHMG and pMG replaced by twin TOW 2B ATGW (2 + 10) launcher and cMG. may reload under armour. Weight is 14t. TOW ground firing post also carried.	335pts

## NETHERLANDS

Vehicles in service are the YPR-765 (AIFV), M113 and the Transportpanzer (TPz-1). YPR-408s and UR-416s are used by the Internal Security Services, the army YPR-408s being phased out of service by 1990.

### YPR-765 (AIFV) VEHICLES

PR-1 (1978)	Tr. 3 + 7. tu25mmA. APDS. cMG. fps. rhs. 3s2 / 1s2 / 0. B B C. HM. SD1. IINF,IID. Amp. NBC. 14t. 61km/hr.	235pts
	1994? - IINF replaced by TI.	255pts
PR 1/1	As PR 1 1978 but tu25mmA and cMG replaced by pHMG.	200pts
PRRDR	As PR 1/1 but add:- GSR.	350pts
PRCO B&C1	Command vehicle as PR-1/1 but size is B B E. and weight is 12t.	200pts
PRAT (1982)	As PR-1 1978 but ITOW ATGW (2 + 10) launcher with cMG in place of tu25mmA. TOW turret is as fitted to the M901.	325pts

### YPR-408 VEHICLES

PW1-S (1965)	8 x 6. 2 + 10. pHMG. rhs. 1 / 0 / 0. C B E. HMM. SD1. IRNF,IRD. 12t. 80km/hr.	140pts
PW1-S(PC)	Command vehicle as Above.	140pts
PW AT	As PW1-S plus TOW 1B ATGW (1 + 14) launcher, may not reload if suppressed.	245pts
PWRDR	As PW1-S vehicle plus GSR.	290pts

## NORWAY

Vehicles in service are the NM-135 (modernised M113) and M113s. The SISU XA-180 is used by the Norwegian UN forces. Norway has selected the Swedish CV9030 armed with a 30mmA(CG) as its new IFV and should be in service by 1997/8.

NM 135 (M113A1)	Tr. 2 + 11. tu20mmA. APDS. cMG. rhs. 2 / 1 / 0. C B D. HM. SD1. IRD. Amp. NBC. 11t. 63km/hr.	175pts
	1995 - SD1 replaced by SD2.	185pts

## PAKISTAN

Vehicles in service are the M113A1, Type-531 and the UK Glover. UR-416 and Shortland APCs are used by the Internal Security Services. Pakistan was assembling M113A2s from kits supplied from the US up until 1990 when the US aid was cut-off, however, 60 basic M113A2s have been supplied to Pakistan UN units in Somalia direct from the USA.

**M113A2 R/C** Tr. US Tw106mmRCLs, may not fire if suppressed. LFC. 2 / 1 / 0. B B E. HM. IRD.  
**FSV (1985?)** Amp. NBC. 11t. 63km/hr. 265pts

## POLAND

Vehicles in service are the OT-62 and 64, BTR-60, MT-LB, BMP-1 and 2 by the army and OT-62 (TOPAS-2AP) by the marines. Internal Security Services use the BTR-152. The BWP-40 is based on the Polish BMP-1 with the turret replaced by the Swedish CV9040 turret. There is doubt as to whether it will have amphibious capabilities. The BWD-40 is similar to the BWP-40 but is based on the MT-LB chassis.

**BWP-40** Tr. 3 + 6. 40mmA. APFSDS. cMG. fps. LFC. 2 / 1 / 0. C B C. HM. SD2,SG.  
**(1994NP)** TI,IID. Amp?. NBC. 15t. 65km/hr. 315pts  
**BWD-40** Tr. 3 + 9. 40mmA. APFSDS. cMG. rhs. LFC. 2 / 1 / 0. C B C. SM. SD2.  
**(1994NP)** TI,IID. Amp. NBC. 16t. 62km/hr. 300pts  
**OT-64B** 8 x 8. 2 + 18. pMG. rhs. 2 / 1 / 0. C B D. HMM. Amp. NBC. 14t. 95km/hr. 120pts  
**(SKOT-2B)** If pMG replaced by pHMG. 130pts  
**OT-64C(2)** As OT-64B but pMG replaced by tu14.5mmHMG and cMG. 145pts  
 If armed with 2 x AT-3B SAGGER ATGWs (2 + 4) mounted on the turret, may not reload if suppressed. 195pts  
**SKOT-R** Command vehicle as OT-64B 120pts  
**(2AM)**  
**OT-62C** Tr. 3 + 12. tu14.5mmHMG. cMG. 1 / 0 / 0. B B D. SM. SG. 16t. 60km/hr. 130pts  
**(TOPAS-2AP)**

## PORTUGAL

Vehicles in service are the Brava (Chaimite), Commando MkIV, EBR-ETT, Panhard M3, M113, Condor and the Commando V-150. The marines also use the Chaimite APC and the Commando MkIII is used by the Internal Security Services.

The Chaimite range of vehicles is similar in appearance to the US Commando (4 x 4) range which were also made under licence in Portugal. The Chaimite has now been replaced in production by the Bravia Mk1 which is almost identical in appearance. The Tiger Mk2 is a basic 6 x 6 truck chassis with an armoured body. The Commando MkIII is similar to the British Shortland but with a longer wheel base and is much heavier.

The EBR-ETT APC is based on a French EBR Recce vehicle chassis. This vehicle was only used by Portugal and is now out of service.

### CHAIMITE FAMILY

**V-200** 4 x 4. 2 + 9. TwtuMGs. fps. rhs. 1 / 0 / 0. C B D. MMF. SD1 Amp. 7t. 99km/hr. 120pts  
**(1968)** If MGs replaced by tuHMG plus cMG. 125pts  
 If above fitted with 4 x 3.5" single rocket launchers each side of turret, may not reload if suppressed. 190pts  
**V-300** As V-200 but tuMGs replaced by tu20mmA firing APDS, cMG and pMG. 155pts  
**(1994NP)**  
**V-400** As V-200 but tuMGs replaced by 90mmLt firing APFSDS. Add:- cMG,pMG and IINF,IID. 225pts  
**(1994NP)**  
**V-700** As V-200 but tuMGs replaced by either:-  
**(1994NP)** HOT 2T ATGW Launcher OR + 150pts  
 TOW 2A ATGW launcher OR + 125pts  
 MILAN 2T (MCT) ATGW launcher + 155pts  
**V-200 SS11** As V-200 but single SS-11 ATGW (2 + 2?) launcher each side of turret. 160pts  
**Mk2-FSV** 6 x 6. 90mmLt. Heat. cMG,pMG. LFC. fps. rhs. 1 / 0 / 0. C A E. HMF. Amp. 10t.  
**(1994NP)** 99km/hr. 220pts  
**TIGER Mk2** 6 x 6. 1 + 20. pHMG. pMG. fps. 1 / 0 / 0. O.Top. C A E. HMF. 10t. 90km/hr. 120pts  
**(1970?)**  
**COMMANDO** 4 x 4. 3 + 5. TwtuMG. fps. 0 / 0 / 0. C B E. MMM. SD1. 5t. 90km/hr. 100pts  
**Mk III (1979)** If TwMGs replaced by tuHMG plus cMG. 105pts  
**EBR-ETT** 8 x 8. 3 + 12. tuMG,fbMG,frMG. rhs. 1 / 0 / 0. C B D HMF. 13t. 105km/hr. 130pts  
**(1959)** Front and rear driving positions fitted.

## ROMANIA

Vehicles in service are the MLI-84, BTR-50, 60 and 152, TAB-71, 72 and 77, MLVM and ABAL. The MLI-84 is identical to the Soviet BMP-1 but with a circular roof hatch at the rear on which is mounted the pMG AA weapon. The MLVM is designed for use in mountain terrain while the ABAL is a load carrier version of the MLI-84 with turret replaced by a pMG.

MLI-84 BMP-1(1984?)	Tr. 2 + 9. 73mmLPG(L/D). AL. Heat. cMG,pHMG (at rear). AT-3C SAGGER ATGW (1 + 4) may not reload if suppressed. fps. rhs. 3 / 1 / 0. C B D. HM. SG. IRNF,IRD. Amp. NBC. 17t. 65km/hr. 1987? - SAGGER now SAGGER C (percussor tip).	345pts 360pts
MLVM (1989)	Tr. 2 + 7. tu14.5mmHMG. cMG. fps. rhs. 2 / 1 / 0. C B D. LGP. SM. IRNF,IRD. NBC. 10t. 48km/hr.	175pts
TAB-71 BTR-60B(1971)	8 x 8. 2 + 8. pMG. rhs. 1 / 0 / 0. C B D. HMM. IRD. Amp. 9t. 80km/hr. Note that 2 additional pMGs may be used when troops are mounted.	110pts
TAB-71M	As TAB-71 but add:- tu14.5mm HMG plus cMG (remove pMG) and IRNF.	150pts
TAB 72 BTR-60(1974)	8 x 8. 3 + 8. tu14.5mmHMG. cMG. fps. rhs. 1 / 0 / 0. B B D. HMM. IRNF,IRD. Amp. NBC. 11t. 95km/hr.	145pts
TAB 77 BTR-70(1979?)	8 x 8. 3 + 8. tu14.5mmHMG. cMG. fps. rhs. 1 / 0 / 0. C B D. HMM. IRNF,IRD. Amp. NBC. 12t. 95km/hr.	150pts
PCOMA	Artillery and OP vehicle as TAB 77 but tuHMG replaced with pMG. Size C B E. 1985? - fitted with Laser Rangefinder.	125pts 145pts
TAB 77A	Command vehicle as TAB 77. Size is C A E.	145pts
TAB 79 (1980)	4 x 4. 3 + 6. tu14.5mmHMG. fps. rhs. 1 / 0 / 0. C B D. MMF. IRNF,IRD. Amp. NBC. 10t. 100km/hr.	145pts

## SOUTH AFRICA

Vehicles in service are the Ratel 20, 60 and 90 plus soft vehicles such as the Rhino and Buffel and there are some Saracen APCs in the Reserves. The INGWE has only been produced in very small numbers for use by both the army (for trials purposes) and the civilian security forces. The Casspir is based on a 4 x 4 truck chassis with an armoured body designed to give good anti-mine protection to the troops inside. There is little difference between the Mk1, 2 and 3 versions the Mk1 and 2 being in service from 1979.

RATEL-90 FSV (1980)	6 x 6. 2 + 8. 90mmLt. Heat. cMG,pMG,rpMG. fps. rhs. BFC. 2 / 1 / 1. MR. B A D. HMF. SD1. IRNF,IRD. 19t. 105km/hr. 1987? - Add APFSDS, replace BFC with OFC plus cHMG mounted over the barrel (may not be used if main gun is used).	260pts 305pts
RATEL-60 IFV	As FSV 1980 but 90mm gun replaced by tu60mmGM (HE & Smoke only). Crew 4 + 7. weight 18t.	205pts
RATEL-20	As FSV but 90mm replaced by tu20mmA firing AP, plus cMG. Crew 4 + 7.	225pts
RATEL-Com	Command vehicle as FSV. replace 90mm, cMG and pMG by tuHMG, weight 18t.	200pts
INGWE (1994NP)	4 x 4. 2 + 10. pMG,rpMG. fps. rhs. 1 / 1 / 0. MR. B A E. MMM. 13t. 93km/hr. If pMG replaced by tu20mmA firing APDS and cMG. Size is B A D.	120pts 155pts
FSV (1994NP)	6 x 6. 3 + 6. 90mmLt. APFSDS,Heat. cMG,pMG. fps. rhs. LFC? 2 / 1 / 0. MR. B A D. HMF. SD1. IINF,IID?. 19t. 110km/hr.	300pts
CASSPIR MkIII (1987)	4 x 4. 2 + 10. twpMG,fpMG. fps. 0 / 0 / 0. O.Top. MR. B A D. MMM 13t. 79km/hr. Internal Security Version - Remove O.Top and all MGs.	100pts 85pts

## SAUDI ARABIA

Vehicles in service up to 1994 are the AMX-10P, Panhard M3, M113A2 (being converted to A3 standard), UR-416 and LAV-25. The National Guard uses the Commando V-150 while the Internal Security Services use the UK Glover APC. The Navy uses some BMR-600 APCs. The EL LABWA is a locally produced APC soon to enter service with the National Guard, however, they have ordered LAVs from the USA so the position of the El Labwa is not certain. The Piranha is being supplied by both GKN of the UK and Canada.

The M2A2 Bradleys were delivered in 1994 and should be in service by 1995 and will operate with the M1A2s being delivered. Some 32 M577A2s are also on order from the USA.



EL LABWA (1994?)	6 x 6. 2 + 7. rhs. 2 / 1 / 0. C A E. HMF. IID. Amp. NBC. 16t. 95km/hr.	125pts
FSV (1994?)	6 x 6. 90mmLt. APFSDS,Heat. cMG,pMG. LFC. 2 / 1 / 0. C A D. HMF. SD2.	
PIRANHA (1994)	IINF,IID. Amp. NBC. 18t. 95km/hr.	295pts
	8 x 8. 3 + 12. tu25mmA(CG). APDS. Single TOW 2A ATGW (2 + 4) mounted either side of turret, may not reload if suppressed. cMG. LFC. S2. fps. rhs. 1 / 0 / 0. B B D. HMF. SD2. TI.IID. Amp. NBC. 12t. 100km/hr.	405pts

## SOVIET

All the following vehicles are in service with the army or are in reserve. The Naval infantry use the BTR-60, BTR-80 and MT-LB/MT-LBV although it has been confirmed that they will also be equipped with the BMD-3. The MT-LB replaces the older AT-P tractor as the main towing vehicle in the Soviet army. The new BMP-3 is only in service in small numbers at present (100 by the end of 1993) but has been supplied to Abu Dhabi and may be bought by Kuwait

### BMP VEHICLES

BMP-3 (1990)	Tr. 3 + 7. 100mm(L/D) firing AT-10 STABBER ATGW (8) or HE. AL (HE rounds only) c30mmA. AP. cMG.TwbMGs. LFC. S2. fps. rhs. 3s2 / 1 / 1. B A D. HM. SD2,SG. LD. IINF,IID. DZB. Amp. NBC. 19t. 70km/hr.	515pts
	1993 UAE. (Abu Dhabi) - IINF replaced with TI on some vehicles.	535pts
	1993 Soviet vehicles - 30mm AP replaced by APDS.	525pts
BMP-2 (1979)	Tr. 3 + 7. 30mmA. AP. AT-5 SPANDREL ATGW (1 + 4), may not reload if suppressed. cMG. S2. fps. rhs. 3 / 1 / 0. C B C. HM. SG. IRNF,IRD. Amp. NBC. 14t. 65km/hr.	320pts
	A ground mount is also carried for dismounting the AT-5.	
	1985? - Add:- SD1.	325pts
	1992? - Replace AT-5 with AT-5A.	390pts
	1992 - Soviet vehicles - 30mm AP replaced by APDS.	400pts
BMP-2D (1989)	As BMP-2 1985 but armour is 3s1 / 1s1 / 0.	335pts
EXPORT	Export vehicles have AT-4A SPIGOT ATGW launcher in place of SPANDREL launcher which is not dismountable.	300pts
BMP-1 (1970)	Tr. 3 + 8. 73mmLPG(L/D). AL. Heat. AT-3B SAGGER ATGW (1 + 4) over gun, may not reload if suppressed. cMG. BFC. fps. rhs. 2 / 1 / 0. C B D. HM. SG. IRNF,IRD. Amp. NBC. 13t. 65km/hr.	285pts
BMP-1P	1987 - SAGGER replaced by AT-4B SPIGOT, may not reload if suppressed and Add:- SD1.	340pts
	1987 - SAGGER or SPIGOT replaced by AT-5 SPANDREL, may not reload if suppressed. Add:- SD1.	350pts
Afghanistan	As BMP-1P 1987 but 30mmGL in place of ATGW launcher and armour is 2s1 / 1s1 / 0. AT-4 SPIGOT ground firing post carried allowing the AT-4 to be fired from a pivot mount on the vehicle roof.	375pts
BMP-1K	Battalion command vehicle as BMP-1 but no fps on right side.	285pts
BMP-Ksh	Regimental/Divisional command vehicle. As BMP-1 but no armament.	145pts
PRP-3 (1975)	As BMP-1- Artillery and Mortar locating radar. TuMG only and size is B B C when radar in use. Remove BFC, AL, IRNF and missile.	250pts
Finland	As BMP-1 but no AL.	275pts
BMP-1G* (1994NP)	Tr. 3 + 8. 73mmLPG(L/D). AL. Heat. Pintle mounted AT-4C SPIGOT ATGW (1 + 3) may not reload if suppressed. 30mmGL mounted on back of turret. cMG. BFC. S2. 2 / 1 / 0. C B D. HM. SD2,SG. IINF,IID. Amp. NBC. 14t. 65km/hr.	425pts
	If SPIGOT replaced by AT-5A SPANDREL.	470pts

\* This has only been reported as being on offer as an upgrade to the BMP-1and therefore may not be in service with the Soviet army.

### BMD VEHICLES

BMD-3 (1991)	Tr. 3 + 7. 30mmA. AP. AT-4B SPIGOT ATGW (1 + 4) may not reload if suppressed. cMG,bMG*. b30mmGL* (Range 1200m). S2. fps. rhs. 2 / 1 / 0. C B D. HM. LGP. SD2,SG. IINF,IID. Amp. NBC. 13t. 70km/hr. * these may not be used when the troops dismount.	365pts
	If AT-4 replaced by AT-5 SPANDREL ATGW.	375pts
	1993 Soviet vehicles - 30mm AP replaced by APDS.	375/385pts

	1994? - AT-4B replaced by AT-4C or AT-5 by AT-5A.	+30pts +65pts
<b>BMD-2</b> (1987)	Tr. 2 + 5. 30mmA. AP. Dismountable AT-4B SPIGOT ATGW (1 + 3) launcher, may not reload if suppressed. cMG,bMG. rhs. 1 / 1 / 0. C C D. VHM. SG. IRNF,IRD. Amp. NBC. 7t. 80km/hr.	315pts
	If AT-4 replaced with AT-5 SPANDREL (1 + 3).	320pts
	1993 Soviet vehicles - 30mm AP replaced by APDS.	325/330pts
<b>BMD-1</b> (1973)	Tr. 2 + 5. 73mmLPG(L/D). AL. Heat. AT-3B SAGGER ATGW (1 + 3) may not reload if suppressed. cMG,TwbMGs. BFC. rhs. 1 / 1 / 0. C C D. VHM. SG. IRNF,IRD. Amp. NBC. 7t. 80km/hr.	310pts
<b>BMD-1P</b>	1980 - Replace SAGGER with AT-4A SPIGOT ATGW.	350pts
<b>BTR-D</b> APC (1979)	Tr. 1 + 9. 2 x bMG,2 x pMG. fps. rhs. 2 / 0 / 0. C B E. HM. SD1,SG. IRD. Amp. NBC. 8t. 61km/hr.	160pt
	2 x dismountable 30mmGLs are normally carried.	+50pts
<b>BMD-Ksh</b>	Command vehicle as BTR-D but no weapons or SD1.	125pts
<b>BTR-50 VEHICLES</b>		
<b>BTR-50P</b> (1954)	Tr. 2 + 20. pMG. 2 / 1 / 0. O.Top. C B E. SM. IRD. Amp. 13t. 44km/hr.	115pts
<b>BTR-50PA</b>	As BTR-50P but pMG replaced by p14.5mmHMG, size is C B D.	135pts
<b>BTR-50PK</b>	As BTR-50P but with armoured roof. Add:- fps. rhs. IRNF. NBC. weight 14t.	140pts
<b>BTR-50PU</b> Models 1 & 2	Command vehicle as BTR-50PK but add:- SG.	145pts
<b>MT-LB VEHICLES</b>		
<b>MT-LB</b> (1969)	Tr. 2 + 11. tuMG. rhs. 2 / 1 / 0. C B D. SM. IRNF,IRD. Amp. NBC. 12t. 62km/hr.	145pts
<b>MT-LBus</b>	OP and Artillery Command vehicle with no NBC	145pts
<b>MT-LBus</b>	ECW vehicle as MT-LBus above but Add:- JAM LEVEL 2.	345pts
<b>MT-LBV</b>	As MT-LB but LGP (low ground pressure tracks fitted).	155pts
<b>MT-LB</b> (SNAR-10)	Artillery Radar vehicle as MT-LB, size is B A C (when radar in use).	235pts
<b>MT-LB</b>	Afghanistan as MT-LB plus 82mm Vasilek auto mortar fitted on rear deck.	225pts
<b>ACRV VEHICLES</b>		
There are four basic variants of these OP and Command vehicles which are based on the chassis of the 122mm SPG, these are:- IV13, IV14, IV15 and IV16. The IV14 and IV15 are the vehicles for the Battery and Battalion commanders respectively while the IV13 and IV16 are for their deputies.		
<b>ACRV</b> (IV14 & 15)	Tr. CuHMG. 1 / 0 / 0. B A E. HM. LRF. 'Other' positioning system. IINFG,IID. NBC. Amp. 15t. 62km/hr.	180pts
<b>ACRV</b> (IV13 & 16)	As the above vehicle but no Laser Range Finder or IINF.	135pts
<b>OLD TRACKED VEHICLES</b>		
<b>AT-P</b>	Tr. 3 + 6. fbMG. 1 / 0 / 0. O.Top. D C C. HM. IRD. 6t. 50km/hr. (Used mainly for towing anti-tank or field guns).	115pts
<b>AT-PC</b>	Command vehicle as AT-P but with armoured roof.	125pts
<b>BTR VEHICLES</b>		
<b>BTR-80A</b> (1995NP)	8 x 8. 2 + 8. Cu30mmA. APDS. cMG. fps. 3 / 1 / 0. C A D. HMF. SD2. IINF,IID. Amp. NBC. 15t. 90km/hr.	225pts
<b>BTR-80</b> (1984)	8 x 8. 3 + 7. tu14.5mmHMG. cMG. fps. 2 / 1 / 0. C A D. HMM. SD1. IRNF,IRD. Amp. NBC. 14t. 80km/hr.	165pts
<b>BTR-80</b> (M1989/1)	Command vehicle as basic BTR-80.	165pts
<b>BTR-70</b> (1978)	8 x 8. 2 + 9. tu14.5mmHMG. cMG. fps. rhs. 2 / 0 / 0. C A D. HMM. IRD. Amp. NBC. 12t. 80km/hr.	140pts

BTR-70 (M1986/1)	As BTR-70 but add:- IRNF.	155pts
BTR-70Ksh	Command vehicle as basic BTR-70.	140pts
BTR-70MS	Command vehicle as BTR-70 but no turret or armament. size is C A E.	105pts
Afghanistan	As BTR-70 but with p30mmGL mounted on roof.	165pts
BTR-60P (1961)	8 x 8. 2 + 16. pMG,2 x pMG*. fps. 1 / 0 / 0. O.Top. C B D. HMM. IRNF,IRD. Amp. 9t. 80km/hr. With pMG replaced by pHMG.	135pts 145pts
BTR-60A	8 x 8. 2 + 16. pMG,2 x pMG*. fps. rhs. 1 / 0 / 0. B B D. HMM. IRNF,IRD. Amp.	
BTR-60PK(1963)	NBC. 10t. 80km/hr.	140pts
BTR-60PB (1965)	8 x 8. 2 + 14. tu14.5mmHMG. cMG. fps. rhs. 1 / 0 / 0. B B D. HMM. IRNF,IRD. Amp. NBC. 10t. 80km/hr.	145pts
BTR-60PK	Company Command vehicle as basic BTR-60PB.	145pts
BTR-60PU	Command vehicle as basic BTR-60P.	135pts
BTR-60 (ACRV)	Artillery and OP vehicle as basic BTR-60PB with guns removed from turret.	110pts

### BTR-152 VEHICLES

BTR-152 V1 (1951)	6 x 6. 2 + 17. pMG,2 x pMG*. fps. 1 / 0 / 0. O.Top. C B E. MMM. 9t. 75km/hr. *may only be used when troops are mounted.	105pts
BTR-152(V3)	As V1 but add:- IRD.	110pts
BTR-152K	As V3 but with armoured roof. Add:- rhs.	120pts
BTR-152U	Command vehicle as BTR-152(V3), normally tows a generator. Size A A E. If pMG replaced by pHMG on any of the above vehicles.	95pts + 10pts

### BTR-40 VEHICLES

BTR-40 (1950)	4 x 4. 2 + 8. pMG,2 x pMG*. 0 / 0 / 0. O.Top. C B E. MMM. 5t. 80km/hr. *may only be used when troops are mounted.	95pts
BTR-40B (1957)	4 x 4. 2 + 6. pMG. fps. rhs. 0 / 0 / 0. C B E. MMM. 5t. 80km/hr.	85pts

## SPAIN

Vehicles in service are the BMR-600, M113 and BLR by the army and LVTP7 by the marines. Panhard M3s are in the reserve and the UR-416 is used by the Internal Security Services. The ASCOD is a joint venture between Spain and Austria and will enter production for the Spanish Army who have called it the Pizarro.

PIZARRO (1996?)	Tr. 3 + 8. tu30mmA. APDS. cMG. S2. IFC. fps. rhs. 5 / 2s1 / 1. B A C. HM. SD2. TI, IID. NBC. 25t. 70km/hr.	335pts
BMR 600 (1980)	6 x 6. 2 + 11. CuHMG. fps. rhs. 1s2 / 1 / 0. C B D. HMF. Amp. NBC. 14t. 103km/hr.	140pts
FSV (1994NP?)	6 x 6. 90mmLt. APFSDS,Heat. cMG. LFC. 2s2 / 1 / 0. C B D. HMF. SD2. IINF, IID. Amp. 15t. 103km/hr.	300pts
BLR (1981)	4 x 4. 1 + 12. pMG. fps. rhs. 1 / 0 / 0. C B D. MMM. 12t. 93km/hr.	95pts

## SWEDEN

Vehicles in service are the CV-90, Pbv-302 and SKPFm/42 while their UN forces use the SISU-XA-180.

Sweden is also buying 350 BMP-1s from Germany but it is anticipated that they will not be fielded with the Soviet ATGWs. In late 1993 Sweden also bought 800 MT-LBs from Germany.

The CV9030 IFV is the vehicle which is to be supplied to the Norwegian Army.

CV 9040 (1994)	Tr. 3 + 8. 40mmA. APFSDS. cMG. rhs. LFC. 4 / 2s3 / 1. B A C. HM. SD2. 2 x FL. TI, IID. NBC. 22t. 70km/hr. Note:- A BILL ATGW may be fired from top hatches when vehicle is stationary. (not costed in points total). If fitted with S2 stabilization and IFC.	365pts + 20pts
CV 9030 IFV (1997)	As CV 9040 but 40mmA replaced by 30mmA firing APDS and LFC replaced by AFC. Add:- S2 stabilization.	365pts

CV 90 FCV	Command vehicle as CV 9040 but 40mmA and cMG replaced by tuMG.	295pts
CV 90 FOV	OP vehicle as CV 90 FCV but add:- Laser Rangefinder and Satellite positioning.	340pts
(1996)		
CV90-105	Tr. 4+4. 105mm. APFSDS,HEAT. cMG,pMG. IFC. S2. 4 / 2s3 / 1. B A D. HM.	
FSV (1994NP)	SD2. TI,IID. NBC. 24t. 70km/hr.	415pts
Pbv 302	Tr. 2 + 10. tu20mmA. rhs. 2 / 1s2 / 0. B B D. HM. SD1. Amp. 14t. 66km/hr	160pts
(1967)		
Pbv 3021	Command vehicle as 302 with extra aerals.	160pts
Pbv 3022	AOP vehicle as 3021.	160pts
SKPFm/42	4 x 4. 2 + 13. pTwMG. 1 / 0 / 0. O.Top. B A E. MMM. 9t. 70km/hr.	80pts
(1944)		
	1984 - Armoured roof fitted add:- rhs.	90pts
Bv 206STr.	4 + 8. pHMG. rhs. 1 / 0 / 0. D B E. SM. LGP. Amp. 7t. 50km/hr.	130pts
Pbv202(1990)		

## SWITZERLAND

Vehicles in service are the Piranha 6 x 6 vehicles and the SP63/73 and 89 (M113s). The MR8 and Grenadier vehicles are now out of service and the Roland was exported only. First deliveries of the 8 x 8 Piranhas for the Swiss army should begin early in 1995 and Oman has ordered the basic 8 x 8 version from GKN in the UK. The Piranha is made under licence in Canada where it is known as the LAV or Bison, in the UK by GKN and also in Chile. The Trojan has been developed to replace the old SP63/73 and 89 vehicles but as of 1994 no orders had been placed.

TROJAN	Tr. 2 + 7. tu30mmA. APDS. cMG. LFC. rhs. 3 / 1 / 1. B B C. HM. SD2. TI,IID.	
FSV (1994NP)	NBC. 24t. 70?km/hr.	290pts
<b>PIRANHA FAMILY</b>		
4 x 4	4 x 4. 2 + 8. CuMG. fps. rhs. 1 / 0 / 0. B B E. MMF. IID. Amp. NBC. 8t.	
(1977)	100km/hr.	110pts
	If CuMG replaced by CuHMG.	120pts
	If CuMG replaced by tu20mmA. AP. Size is B B D.	130pts
6 x 6	6 x 6. 2 + 12. tuHMG. fps. rhs. 1 / 0 / 0. B B D. HMF. IID. Amp. NBC. 11t.	
(1978?)	100km/hr.	130pts
	If tuHMG replaced by tu20mmA plus cMG.	+ 15pts
	If tuHMG replaced by tu25mmA plus cMG.	+ 15pts
	If tuHMG replaced by tu30mmA plus cMG.	+ 25pts
	All the above cannon can fire APDS after 1984.	+ 10pts(+ 20pts for 25mmA)
A/T	As 6 x 6 1978 but tuHMG replaced by turret mounting Twin TOW 2A ATGW (2 + 8).	
(1990)	launcher, reload under armour. Ground firing post also carried.	255pts
FSV	6 x 6. 90mmLt. Heat. cMG. 2 / 0 / 0. B B D. HMF. SD2. IINF,IID. Amp. NBC. 11t.	
(1994NP)	100km/hr.	225pts
8 x 8	8 x 8. 3 + 12. CuHMG. fps. rhs. 1s2 / 0 / 0. B B D. HMF. SD2. IID. Amp. NBC.	
(1995)	12t. 100km/hr.	155pts
	(Also ordered by OMAN from GKN in the UK).	
	<b>All the weapon variants listed under the 6 x 6 version can be fitted to the 8 x 8.</b>	
AGV-90	8 x 8. 90mmLt. APFSDS,Heat. cMG. LFC. 1 / 0 / 0. B A C. HMF. SD1. IINF,IID.	
FSV(1987NP)	Amp. NBC. 13t. 100km/hr.	255pts
10 x 10	10 x 10. 105mm. APFSDS,HEAT. cMG. IFC. S2. 3 / 1 / 1. B A C. HMF. SD2.	
FSV (1994NP)	TI,IID. NBC. 18t. 100?km/kr.	375pts
MR 8 (Sw1)	4 x 4. 2 + 5. rhs. 1 / 0 / 0. C B E. MMM. 8t. 80km/hr.	85pts
(1960)		
Sw2	As Sw1 but add:- tu20mmA and SD1. Size is C B D.	120pts
GRENADIER	4 x 4. 2 + 7. tu20mmA. rhs. 1 / 0 / 0. C B E. MMF. SD1. IRD. Amp. 6t. 100km/hr.	135pts
(1968)		
ROLAND	4 x 4. 3 + 3. CuMG. fps. rhs. 0 / 0 / 0. D C E. MMF. SD1. 5t. 110km/hr.	110pts
(1965)	If CuMG replaced by pHMG and Add:- IRD.	125pts

SP 63/73 (M113A1)	TR. 2 + 11. tu20mmA. rhs. 2 / 1 / 0. C B D. HM. Amp. 11t. 63km/hr.	150pts
SP 63/89	1991 - As 63/73 but armour is 3 / 2 / 0 and add:- SD2.	180pts

## TAIWAN

Vehicles in service are the AIFV, M113A1 and 2, Commando V-150 and the CM-21. There are also unconfirmed reports that some Piranha 6 x 6s were purchased some time ago. The marines use the LV3C, LVTP5A and the LVTH6. Some old WWII M3 halftracks are also thought to be still in service.

AIFV M113A2(1980)	Tr. 2 + 8. CuHMG. fps. rhs. 2s2 / 1s2 / 0. C B E. HM. SD1. IRD. Amp. 11t. 66km/hr.	170pts
	If CuHMG replaced by tu20mmA.	180pts
	If CuHMG replaced by Single TOW 71B ATGW (1 + 6) launcher, may reload under armour.	255pts
	If CuHMG replaced by KUEN WU ATGW (1 + 6) launcher, may reload under armour.	210pts

## TURKEY

Vehicles in service are the AIFV, M113 and M113A1, Condor and BTR-60 s while there are some old M59s in the reserve. The Internal security Services use the Commando V-150 and BTR-80 while the Gendarmerie use the Commando V-150, UR-416 and Shortland. The AIFV is the same vehicle as used by the Netherlands and Belgium who initially supplied the vehicle prior to production in Turkey.

AIFV (1992)	Tr. 2 + 11. tu25mmA. APDS. cMG. fps. rhs. 3s2 / 1s2 / 0. B B C. HM. SD2. TI,IID. Amp. NBC. 14t. 61km/hr.	265pts
	If 25mmA replaced by tu25mmA(CG) firing APDS plus cMG. (First 75 production vehicles only).	265pts
	If 25mmA replaced by tuHMG firing APDS plus cMG, weight 13t.	245pts
	If 25mmA replaced by Twin TOW 71D ATGW (2 + 10) launcher, may reload under armour and remove cMG.	350pts

## UNITED KINGDOM

Vehicles in service are the Warrior (MCV-80), FV432, Spartan and the Saxon. The Valkyr is based on the Belgian BDX MkII vehicle and made under licence in the UK.

### MCV-80 WARRIOR VEHICLES

MCV-80 (1988)	Tr. 3 + 7. 30mmA(Rarden). APDS. cMG. rhs. 4 / 2 / 1. B A C. HM. SD2. IINF,IID. LD. NBC. 25t. 75km/hr.	270pts
	1991 Desert Storm - As MCV 80 but armour is 5c2 / 3c4 / 1.	330pts
	1997 - Add:- APFSDS.	+ 10
MAOV (1991)	OP vehicle as MCV 80 1988 but 30mmA is a dummy gun so cMG becomes tuMG and IINF replaced by TI. Add:- Laser Rangfinder, GSR and Other Positioning.	415pts
	1995 - Add:- dismountable GSR fitted in place of fixed GSR.	315pts
	AS MAOV 1995 - Artillery Command vehicle fitted with BATES but no GSR, LRF TI and 'Other' positioning replaced by SAT positioning.	710pts
MILAN (1993)	As MCV 80 1988 with pivot mounted MILAN 2 ATGW (1 + 6) launcher on turret roof, no reloading if suppressed. Size B A E if Milan only capable of firing.	435pts
TRIGAT (1997?)	As MCV 80 1988 but 30mmA replaced by TRIGAT (medium range) ATGW launcher, may reload under armour.	410pts
FAHRIS Desert Warrior (1995)	Tr. 3 + 7. 25mmA(CG). APDS. Single TOW ATGW 2B (2 + 4) launcher fitted either side of the turret, may reload under armour. cMG. fps rhs. 4 / 2 / 1. B A C. HM. SD2. TI,IID. NBC. 25t. 75km/hr.	420pts
SPARTAN APC (1978)	Tr. 3 + 4. CuMG. rhs. 1 / 1 / 0. C B E. VHM. SD1. IID. Amp(prepare)*. NBC. 8t. 81km/hr. *Not on British vehicles.	155pts
	If fitted with dismountable GSR. Size is C B D when radar in use.	205pts
SULTAN	Command vehicle - As Spartan APC but CuMG replaced by pMG, Size is B B E. speed is 73km/hr.	150pts

### FV 432 VEHICLES

FV 432 (1964)	Tr. 2 + 10. pMG. rhs. 2 / 1 / 0. B B E. HM. SD1. IID. Amp(prepare). NBC. 15t. 52km/hr.	140pts
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<b>GPMG</b>	As FV 432 but pMG replaced by tuMG. No rhs and size is B B D.	145pts
<b>Rarden</b>	As FV 432 but pMG replaced by 30mmA. APDS, no rhs and size is B B D.	200pts
<b>Command</b>	Command vehicle as FV 432.	140pts
<b>Radar</b>	As FV 432 plus Cymbeline mortar or artillery locating radar. Size is A A C (radar in use)	230pts
<b>STORMER VEHICLES</b>		
<b>APC</b> (1984)	Tr. 3 + 8. CuMG. rhs. 2 / 1 / 0. C B E. VHM. SD1. IID. Amp(pre). NBC. 13t. 80km/hr.	165pts
<b>Malaysia</b> (1984)	Tr. 3 + 8. tu20mmA. AP. cMG. fps. rhs. 2 / 1 / 0. C B D. VHM. SD1. IID. NBC. 13t. 80km/hr.	190pts
	If tu20mmA replaced by TwtuMGs.	180pts
<b>FOV</b> (1988NP)	OP vehicle as Stormer 1984 but fitted with IINF. Also has a Laser Rangefinder and 'Other' positioning system.	220pts
<b>VISOR</b> (1991NP)	Recce and OP vehicle as FOV but IINF replaced by TI and 'Other' positioning system replaced by Satellite positioning.	250pts
<b>OTHER VEHICLES</b>		
<b>VICKERS Mk2</b>	6 x 6. 4 + 8. 105mmLt. APFSDS,HESH. cMG,pHMG. fps, IFC. S2. 1 / 0 / 0.	
<b>FSV/APC(1994NP)</b>	B A C. HMF. SD2. IINF,IID. Amp. NBC. 22t. 100km/hr.	330pts
	If fitted with TI in place of IINF.	350pts
<b>SARACEN</b> <b>FV603 (1954)</b>	6 x 6. 2 + 10. tuMG,pMG(at rear). fps. 1 / 0 / 0. C B D. HMM. SD1. 10t 72km/hr.	125pts
	1964 - As FV 603 but O.Top.	115pts
	1988 - SD1 replaced by SD2.	135pts
<b>FV604 &amp; 610</b> <b>KUWAIT</b>	Command vehicles as FV 603 but with pMG only.	110pts
<b>VALKYR</b> <b>BDX(1984NP)</b>	4 x 4. 2 + 8. tuMG. fps. rhs. 2 / 1 / 0. MR*. C B D. MMF. SD1. IID. Amp. 11t. 100km/hr. *MR applies to anti-personel mines only.	150pts
<b>FSV</b> (1986NP)	4 x 4. 90mmLt. APFSDS,Heat,Hesh. cMG,pMG. LFC. 2 / 1 / 0. C B C. MMF. SD2. IINF,IID. Amp. NBC. 14t. 100km/hr.	290pts
<b>SIMBA APC</b> <b>Philippines(1995)</b>	4 x 4. 2 + 10. pMG. fps. 1 / 0 / 0. C B E. MMF. SD1. IID. NBC. 10t. 1-00km/hr.	120pts
	If pMG replaced by tuHMG, size is C B D.	130pts
	If pMG replaced by tu20mmA. APDS. cMG. Size is C B D.	155pts
<b>SIMBA 90</b> <b>FSV(1994NP)</b>	4 x 4. 90mmLt. APFSDS,Hesh,Heat. cMG. LFC. 1 / 0 / 0. MMF. SD2. IINF,IID. NBC. 11t. 100km/hr.	250pts
<b>SAXON</b> <b>AT105(1985)</b>	4 x 4. 2 + 10. pMG. fps. 1 / 0 / 0. C B E. MMM. 12t. 96km/hr.	95pts
	If pMG replaced by TwtuMGs, 2 + 8 troops, size is B B D.	100pts
<b>SAXON</b> <b>Patrol(1993)</b>	As AT105 1985 but MMF and armour is 2 / 1 / 0. Add:- SD2.	135pts
<b>GLOVER</b> (1989)	4 x 4. 2 + 12. tuMG. fps. 1 / 0 / 0. C B D. MMF. 10t. 125km/hr.	110pts
<b>HOTSPUR</b> <b>Hussar(1988)</b>	6 x 6. 1 + 13. pMG. fps. 0 / 0 / 0. C B E. HMF. 5t. 120km/hr.	105pts
	If pMG replaced by tuMG size is C B D. Add:- SD2.	125pts
<b>HOTSPUR</b> (1984)	4 x 4. 2 + 6. pMG. fps. 0 / 0 / 0. D B E. MMF. 4t. 120km/hr.	100pts
<b>HUMBER</b> <b>FV1611(1953)</b>	6 x 6. 1 + 13. fps. 1 / 0 / 0. B B E. MMM. 7t. 64km/hr.	80pts
<b>SHORTLAND</b>	4 x 4. 2 + 6. pMG. fps. 0 / 0 / 0. D B E. MMF. 4t. 120km/hr.	100pts

# UNITED STATES

Vehicles in service are the M2 (Bradley), M113/A1/A2/A3, Commando M706 and Dragoon by the army. The marines use the LVTP7/7A1 while the Air Force and Navy both use the Commando Ranger. The LAV is used by the Marines as well as by the Airborne forces and the Armies Light Division.

## M2 BRADLEY VEHICLES

M 2 (1983)	Tr. 3 + 6. 25mmA(CG). APDS. cMG. Twin TOW 71C ATGW (2 + 5) launcher may reload under armour. S2. fps. rhs. 4c3 / 2c3 / 1c2. B A D. HM. SD1. TI,IID. Amp(pre). NBC. 23t. 66km/hr.	455pts
M2 A1 (1986)	As M2 but 3 + 5 troops, TOW 2(71D) ATGWs, SD1 replaced by SD2 and add:- SD.	470pts
M2 A2 (1988)	TR. 3 + 5 25mmA(CG). APDS. cMG. Twin TOW 2A ATGW launcher (2 + 5) may reload under armour.. S2. rhs. 6c3 / 3c3 / 1c2. MR. B A D. HM. SD2. TI,IID. Amp(pre). NBC. 30t. 61km/hr.	515pts
	1991 - Gulf War - Add:- IRJ.	+ 10pts
	1993 - APDS replaced by APFSDS.	+ 10pts
	1994 - APDS replaced by APFSDS(DU).	+ 20pts
M2 A2 ERA (1994?)	As M2 A2 1994 but ERA blocks fitted, armour is 6c3E2 / 3c3E2 / 1c2. There is some doubt that first generation ERA can be fitted to the M2 range but I have assumed that the more advanced second generation can.	475pts
M2 A0DS (1995?)	Tr. 3 + 5. 25mmA(CG). APFSDS(DU). cMG. Twin TOW 2B ATGW launcher(2 + 5) may reload under armour. S2. rhs. IFC. 7c2 / 3c3 / 1c2 / 1T (ceramic tiles). MR. B A D. HM. IRJ. SD2(A). LD. TI,TID. Amp(pre). NBC. 31t. 61km/hr.	645pts
M2 A3	1997 - As M2 A0DS but IFC replaced by AFC.	655pts
STINGRAY (1996)	A small number (around 6) of these vehicles are being produced. They are a standard M2 A2 fitted with a sensor package designed to disrupt enemy optical/electro-optical fire control systems (see rule mod. section for its effect). Costed as JAM LEVEL 4.	905pts

## M113 VEHICLES

M113A1 (1961)	Tr. 2 + 11. pHMG. rhs. 2 / 1 / 0. C B E. HM. IRD. Amp. NBC. 11t. 63km/hr.	145pts
M1015 (1988)	ECM vehicle as M113A1 Add:- JAM level 3.	445pts
M113A1 ACAV	Tr. tuHMG. 2xpMG.(1 firing to each side). 2 / 1 / 0. C B D. HM. IRD. Amp. NBC. 11t. 63km/hr.	165pts
M113A2 (1979)	As M113A1 speed is 61km/hr.	145pts
M113 TOW M150(1980)	As M113A2 with a single TOW 71B ATGW (1 + 14) launcher, may not reload if suppressed.	250pts
M132	As M113A2 above but pHMG replaced by tuFlame (Range 150m) and cMG.	150pts
M113A3 (1987)	As M113A1 but IRD replaced by IID, weight is 12t and speed is 66km/hr, add:- SD2.	165pts
	1994 - Replace IID with TID and add:- MR. MR applies to anti-personel mines only.	190pts
M1059 (1988)	As M113A3 with 2 x BSGs (Smoke Generators) on the roof.	+ 60pts
M577 (1974)	Tr. pMG. 2 / 1 / 0. B B E. HM. IRD. Amp. NBC. 11t. 63km/hr. Command vehicle.	130pts
M577A2E2 (1989)	Stretched version of M577, armour is 2 / 1 / 0 / T. Size is B A E.	135pts
M1068A3 (1995?)	As M577A2E2 to be used for the new Tactical Command and Control system.	135pts
M981 FISTV (1986)	OP vehicle - CuMG. 2 / 1 / 0. C B E. HM. SD1. TI,IID. Amp. NBC. 11t. 63km/hr. Also fitted with LRF and Satellite Positioning. This vehicle is fitted with the M901 TOW turret which houses electronic equipment rather than the TOW missiles.	230pts

<b>M1101A3</b>	As M981 vehicle but the turret is fitted twin 2.75" smoke rocket pods (in place of the electronic equipment above) and also a BSG system. Each pod houses 19 smoke rockets with a maximum range of 6km.	195pts
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#### OLDER APCs

<b>M59</b> (1955)	Tr. 2 + 10. pHMG. rhs. 2 / 1 / 0. B A E. SM. IRD. Amp. 19t. 52km/hr.	125pts
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<b>M59A1</b>	pHMG replaced by CuHMG.	125pts
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<b>M57</b> (1952)	Tr. 2 + 10. pHMG. rhs. 2 / 1 / 0. B A E. HM. IRD. 19t. 71km/hr.	135pts
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<b>M3 Halftrack</b> (1944)	HTr. 3 + 10. pMG. 1 / 0 / 0. O.Top. C A E. MMM. 9t. 64km/hr.	85pts
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#### WHEELED VEHICLES

<b>V 300</b> Commando(1984)	6 x 6. 3 + 9. pHMG. fps. rhs. 2 / 1 / 0. C B E. HMF. IID. Amp. 15t. 100km/hr.	150pts
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Panama 1984 - pHMG replaced by TwtuMGs, size is C B D.	150pts
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Pillipines 1995 - pHMG replaced by tuHMG plus cMG. Size is C B D.	155pts
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<b>FSV</b>	6 x 6. 90mmLt. Heat,Hesh. cMG. BFC. 2 / 1 / 0. C B D. HMF. SD1. IID. Amp. 16t. 100km/hr. Panama in1984 and the Pillippines in 1994.	215pts
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<b>V 100</b> M 706(1965)	4 x 4. 2 + 10. TwtuMGs. fps. 1 / 0 / 0. C B D. MMF. IRD. Amp. 7t. 100km/hr.	120pts
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<b>V 200</b> FSV	4 x 4. 90mmLt. Hesh,Heat. cMG,pMG. fps. BFC. 1 / 0 / 0. C A D. MMF. SD1. 13t. 96km/hr.	195pts
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<b>APC</b>	As V 200 but 90mm replaced by tu20mmA plus cMG and pMG(rear). The only user of the V 200 vehicles is Singapore.	160pts
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<b>V 150</b> (1972)	4 x 4. 2 + 7. pMG. rhs. 1 / 0 / 0. C B E. MMM. Amp. 9t. 89km/hr.	95pts
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If pMG replaced by TwtuMGs, size is C B D, and 3 + 7 troops.	+ 10pts
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If pMG replaced by tuHMG and cMG, size is C B D, 3 + 5 troops. Add:- SD1.	+ 20pts
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If pMG replaced by tu20mmA plus cMG, size is C B D, 3 + 5 troops. Add SD1.	+ 30pts
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<b>V 150S</b> (1982)	4 x 4. 3 + 7. tu25mmA. AP. cMG,pMG. rhs. 1 / 0 / 0. C A D. MMF. SD1. IINF,IID. Amp. 11t. 100km/hr.	170pts
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This is the current standard production model.	
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<b>Taiwan (APC)</b>	As V 150S but 25mmA and cMG replaced by tu HMG.	155pts
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<b>FSV</b> (1984)	4 x 4. 90mmLt. Hesh,Heat. cMG,pMG. LFC. 1 / 0 / 0. C B D. MMF. SD1. IINF,IID. Amp. 10t. 100km/hr.	260pts
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<b>V 150S (TOW)</b>	As V 150S but tu25mmA and cMG replaced by single TOW 2 ATGW (1 + 6) launchers, may not reload if suppressed. Weight is 9t.	275pts
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#### DRAGOON FAMILY

<b>APC (300)</b> (1984)	4 x 4. 1 + 11. pMG. fps. rhs. 1 / 1 / 0. C B E. MMF. IID. Amp. 13t. 116km/hr.	120pts
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If pMG replaced by pHMG.	130pts
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<b>TOW</b>	If pMG replaced by pedestal mounted TOW 2 ATGW (1 + 6) launcher, may not reload if suppressed.	250pts
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<b>FSV</b>	4 x 4. 90mmLt. Hesh,Heat. cMG. BFC. 1 / 1 / 0. B A D. MMF. SD1. IINF,IID. Amp. 13t. 100km/hr.	215pts
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If 90mm gun and cMG replaced by tu40mmGL plus cHMG. Size is C B D.	185pts
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<b>COMMANDO</b>	4 x 4. 2 + 6. pMG. fps. 0 / 0 / 0. D C E. MMF. 5t. 112km/hr.	105pts
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<b>Ranger(1981)</b>	Luxembourg - pMG replaced by tuMG.	110pts
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#### MARINE LVTP VEHICLES

<b>LVTP 7</b> AAV7(1972)	Tr. 3 + 25. tuHMG. 2 / 1 / 0. A A E. HM. IRD. Amp. 23t. 64km/hr.	130pts
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LVTP7A1 (1983)	As LVTP7 but Add:- SG. IINF,IID. weight is 24t speed is 72km/hr.	160pts
Block I	1987 - As LVTP7A1 but Add:- c40mmGL and LFC. Size is A A D.	225pts
Block II	1988 - As LVTP7A1 but armour is 2s2 / 1s2 / 0.	180pts
LVTP-Comm	1992 - As LVTP7A1 but armour is 3s2 / 2s2 / 0s1.	200pts
	Command vehicle as LVTP7A1 but tuHMG replaced by pMG.	150pts

### OLD MARINE VEHICLES

LVT 5 (1953)	Tr. 3 + 34. tuMG. rhs. 1 / 0 / 0. A A D. HM. Amp. 30t. 48km/hr.	105pts
LVTc5	Command vehicle as LVT 5, 3 + 9 troops.	105pts
LVT 5A1 (1965)	As LVT 5 but add:- IRD.	110pts
LVTH 6 FSV(1954)	Tr. 105mmLt. Heat. cMG,pHMG. BFC. 1 / 0 / 0. A A C. HM. 31t. 48km/hr.	190pts
LVT 4 (1944)	Tr. 7 + 30. 2 x pHMG,fbMG,2 x pMG. 1 / 0 / 0. O.Top. A A D. SM. Amp. 17t. 24km/hr.	135pts

## YUGOSLAVIA

Vehicles in service are the BTR-40, 50, 60 and 152, M-60, M-80, BVP-M80A, OT-810, MT-LB, TAB-71 and 72 and the BOV-M. The BVP-M80A is almost identical to the M-80 (previously known as the M-980) and is a direct replacement for it.

### BVP VEHICLES

M80A (1981)	Tr. 3 + 7. tu20mmA. AP. cMG. Twin 9M ATGW (2 + 4) launcher on turret, may not reload if suppressed. fps. rhs. 3 / 1 / 0. B A D(E if missile only capable of firing). HM. SG. IRNF,IRD. Amp. NBC. 14t. 64km/hr.	295pts
M80AK	As M80A but tu20mmA replaced by tu30mmA. Add:- SD1.	310pts
M80ALT	As M80A but turret replaced by a turret mounting 6 x 9M ATGWs (6 + 12) may not reload if suppressed. Add:- cMG.	265pts

### OLDER VEHICLES

M-80 M-980(1975)	Tr. 3 + 7. tu20mmA. AP. cMG. Twin AT-3B SAGGER ATGW (2 + 4) launcher on back of turret, may not reload if suppressed. fps. rhs. 2 / 1 / 0. C A D(E if missiles only capable of firing). HM. SG. IRNF,IRD. Amp. NBC. 14t. 60km/hr.	225pts
	1980 - SAGGER B replaced by 9M missiles.	290pts
M-60P (1965)	Tr. 3 + 10. pHMG (dismountable). fbMG. fps. rhs. 2 / 1 / 0. C B E. SM. IRD. 11t. 45km/hr.	140pts
M-60PB AT	Tr. 2 + 10. Tw82mmRCLs, may not reload if suppressed. pMG. fps. rhs. BFC. 2 / 1 / 0. C B D. SM. IRD. 11t. 45km/hr.	200pts
BOV (1983)	4 x 4. 2 + 8. CuMG. fps. 1 / 0 / 0. C B E. MMM. SD1. IID. 6t. 95km/hr.	110pts

# IN SERVICE WITH OTHER COUNTRIES

## AFGHANISTAN

Vehicles in service are the BTR-40, 50, 60, 70, 80 and 152 and the BMP-1 and 2.

## ALBANIA

Vehicles in service are the BTR-40, BTR-50, BTR-152 and the Type-531.

## ALGERIA

Vehicles in service are the BTR-50, BTR-60, BTR-152, Walid, BMP-1 and 2 while the Gendarmerie use the Panhard M3.

## ANGOLA

Vehicles in service are the BTR-50, BTR-60, BTR-152 and the BMP-1.

## AUSTRALIA

Vehicles in service are the M113A1, LAV-25 and the Bison.

## BAHRAIN

Vehicles in service are the Saxon, Panhard M3 and Shortland while the Internal Security Services use the Hotspur Hussar.

## BENIN

The only vehicle in service is the WWII M3 halftrack.

## BOLIVIA

Vehicles in service are the Commando V-100, M113 and M113A1, Mowag Roland, EE-11 Urutu and the Steyr SK 7FA.

## BOTSWANA

Vehicles in service are the Commando V-150 and the BTR-60.

## BURUNDI

Vehicles in service are the Walid, Panhard M3 and the BTR-40 while the Internal Security Services use the Shortland.

## CAMBODIA

Vehicles in service are the BTR-40, BTR-60, BTR-152 and a modernised M113.

## CHAD

Vehicles in service are the Commando V-150S, BTR-60 and the WWII M3 halftrack.

## COLUMBIA

Vehicles in service are the EE-11 Urutu, M113A1 and the RCV-9 while the Internal Security Services use the Panard Buffalo.

## CONGO

Vehicles in service are the BTR-50, BTR-60, BTR-152 and the OT-62.

## CUBA

Vehicles in service are the BTR-40, BTR-60, BTR-152 and the BMP-1.

## DOMINICAN REPUBLIC

Vehicles in service are the Commando V-150 and the M3A1 halftrack.

## ECUADOR

Vehicles in service are the AMX-VCI, M113, UR-416, Condor and the VAB and Internal Security uses BLRs.

## EL SALVADOR

Vehicles in service are the UR-416 and a modified M114.

## ETHIOPIA

Vehicles in service are the BTR-40, BTR-60, BTR-152, BMP-1 and the M113A1 while the Internal Security Services use the UR-416. However, due to the present conflict the status of this equipment is uncertain.

## GUATEMALA

Vehicles in service are the Commando V-150, M113 and the Armadillo.

## GABON

Vehicles in service are the VXB-170, Commando V-150, Panhard M3, ACMAT VBLA and the EE-11 Urutu.

## GHANA

Vehicles in service are the Mowag Piranha (4 x 4) and (6 x 6).

## GUINEA

Vehicles in service are the BTR-40, BTR-50, BTR-60, and the BTR-152.

## INDONESIA

Vehicles in service are the AMX-VCI, BTR-40, BTR-152, Commando V-150, Saracen, Commando Ranger and the Condor. Marines use AMX-10Ps and BTR-50s and Internal Security uses the ACMAT VBLA Yari.

On order (late 1994) are Stormer APCs along with a contract for the up-grade of their Saracen APCs.

## IRAQ

Vehicles in service are the BTR-50, BTR-60, BTR-152, BMP-1, BMP-2, EE-11 Urutu, Panhard M3, OT-62, OT-64, Walid, Type-531, MT-LB, M-60P, BMD-1 and AMX-10P while the Internal Security Services use the Mowag Roland.

## JORDAN

Vehicles in service are the Saracen, M113A1 and M113A2, EE-11 Urutu and the BMP-2.

## KENYA

Vehicles in service are the Panhard M3 and the UR-416.

## KOREA - NORTH

Vehicles in service are the BTR-40, BTR-50, BTR-60, BTR-152, BMP-1, Type-531 and the M-1973 the latter being a copy of the Chinese YW-531 APC.

## KUWAIT

Vehicles in service are the Saracen, M113A1 and A2, AMX-VCI, Commando V-150, Commando V-300. Fahd and BMP-2 while the Valkyr is used by the Internal Security Services. Also 30 M577A3 command vehicles have been ordered from the USA and a quantity of BMP-3 IFVs from the Soviets.

## LAOS

Vehicles in service are the BTR-40, BTR-152 and the M113.

## LEBANON

Vehicles in service are the Panhard M3, M59, Saracen, VAB, AMX-VCI and the M113A1/A2 some of which are in the reserve. The Internal Security Services use the Chaimite and the Shortland.

## LIBYA

Vehicles in service are the BTR-50, BTR-60, BMP-1, OT-62, OT-64, Chaimite, Saracen, M113A1, Fiat 6614 and the EE-11 Urutu.

## MALAYSIA

Vehicles in service are the Commando V-100 and V-150, Panhard M3, Stormer, Condor and the Sibmas. Internal Security Services use the Saxon and the SB 301. Malaysia has also taken delivery of 42 South Korean KIFVs for use by its UN forces in Bosnia and the army may buy more for its own use.

## MEXICO

Vehicles in service are HWK-11, Panhard M3 VTS, Panhard VCR, Sedena 100 and the WWII M3 halftrack.

## MOROCCO

Vehicles in service are the Panhard M3, M113A1, OT-62, OT-64, UR-416, VAB, Ratel 20 and 90, EE-11 Urutu and the WWII M3 halftrack.

## MOZAMBIQUE

Vehicles in service are the BTR-40, BTR-60 and BTR-152.

## NEW ZEALAND

The only vehicle in service is the M113.

## NICARAGUA

Vehicles in service are the BTR-40, BTR-50, BTR-60 and the BTR-152.



**NIGERIA**

Vehicles in service are the Saracen, Steyr 4K 7FA, Mowag Piranha (6 x 6), Panhard M3 and the Saxon.

**OMAN**

The only vehicles in service with the army is the Fahd and Saxon while the Gendarmerie use the VAB and the Internal Security Services also use the Saxon. Orders have been placed for the Pirhana (fom GKN) with deliveries being 1995 to 1997.

**PERU**

Vehicles in service are the M113A1, UR-416, Fiat 6614, Casspir and the Mowag Roland which is also used by the Gendarmerie. The marines use the Chaimite.

**PHILIPPINES**

Vehicles in service are the AIFV, Chaimite, M113A1, Commando V-150, and Commando V-300s and Simbas are on order. The marines use the LVTP5, LVTH6 and the LVTP7A1.

**QATAR**

Vehicles in service are the AMX-10P(ICV), AMX-VCI, VAB, and Commando Mk3 while the Internal Security Services use the UR-416.

**SINGAPORE**

Vehicles in service are the Commando V150, M113A2, AMX-10P (25-ICV) and the AMX-10 PAC 90 while the Air Force uses the Commando V-200.

**SOMALIA**

Vehicles in service are the BTR-40, BTR-50, BTR-60, BTR-152, Commando V-150, M113, Fiat 6614 and the Panhard M3. However, due to the present conflict the status of some of this equipment is uncertain.

**SUDAN**

Vehicles in service are the BTR-40, BTR-50, BTR-152, Commando V-100, V-150 and V-150S, OT-62, OT-64, M113, Type-531, Walid Mk1 and Mk2, Panhard M3, AMX-VTT and the Fahd.

**SYRIA**

Vehicles in service are the BTR-40, BTR-50, BTR-60, BTR-152, BMP-1 and the OT-64.

**TANZANIA**

Vehicles in service are the BTR-40, BTR-152, Type-65 and the Type-531.

**THAILAND**

Vehicles in service are the Commando V-150, M113A1/A2 and Type-85(YW 531H) the marines use LVTP7s.

**TUNISIA**

Vehicles in service are the M113A1 and the Commando V-150, while the Gendarmerie use the VXB-170 and the Internal Security Services use the Fiat 6614 and the EE-11 Urutu.

**UNITED ARAB EMERATES**

Vehicles in service are the AMX-VCI, AMX-10P, VAB, Panhard VCR/TT, Panhard M3 VTS, EE-11 Urutu and the BMP-3 (Abu Dhabi 1994) with some of the latter being fitted with TI.

**UGANDA**

Vehicles in service are the BTR-40, BTR-152 and the OT-64.

**URAGUAY**

Vehicles in service are the M113, Condor, EE-11 Urutu and the WWII M3 halftrack.

**VENEZUELA**

Vehicles in service are the AMX-VCI, UR-416, Commando V-150, Commando V-100, Dragoon, Fiat 6614, RBY, RBY-106RCL and the EE-11 Urutu which is also used by the marines and includes the FSV version. The marines also use the LVTP7 and the Transportpanzer. The Internal Security Services use the Shortland.

**VIETNAM**

Vehicles in service are Commando V-100, BTR-50, BTR-60, BTR-152, Type-531, Type-56 and modified M113s some of which are ACAV versions with the US weapons replaced with equivalent Soviet weapons.

**YEMEN**

Vehicles in service are the BTR-40, BTR-50, BTR-60, BTR-152, M113 and M113A1, Walid, BMP-1 and 2.

**ZAIRE**

Vehicles in service are the Panhard M3, M113, Type-531, BTR-40, BTR-50, BTR-60, BTR-152 and the WWII M3 halftrack while the Internal Security Services use the Fahd.

**ZAMBIA**

The only vehicle in service is the BTR-60.

**ZIMBABWE**

Vehicles in service are the UR-416, Type-531 and BTR-152 while the soft vehicles Hyena, Leopard, Buffel, Hippo and Crocodile are also used.

# RECONNAISSANCE VEHICLES

The following vehicles are those specifically designated as reconnaissance vehicles. Many APCs, AIFVs and light tanks can also perform this function but it has been recognised by most armies that the best vehicles for the job are those designed for and dedicated to this duty alone.

## AUSTRALIA

Australia has no specific Recce vehicle at present but the M113A1(T-50) is used in this role.

M113A1 T-50	Tr. TuHMG. cMG. 2 / 1 / 0. B B D. HM. SD1. IRD. Amp. 64km/hr.	150pts
	1995/6 - Replace IRD with IINF,IID.	175pts

## AUSTRIA

Austria had no specific Recce vehicle at present but the following vehicle is used in this role.

PANDUR	6 x 6. 90mm. APFSDS,Hesh. cMG,CuMG. LFC. 1 / 1 / 0. C B D. HMF. SD2.	
FSV(1994NP)	TI,IID. NBC. 14t. 100km/hr.	330pts
	If CuMG replaced by CuHMG.	340pts

## BELGIUM

Vehicles in service are the Scorpion and Scimitar. The FN 4RMs were phased out of service in 1990.

FN 4RM/62F	4 x 4. 90mmLt. Heat. cMG,pMG. 1 / 0 / 0. C B D. MMF. SD1. NBC. 9t. 110km/hr.	180pts
(1972)	If armed with TwtuMG and 60mmGM in place of 90mm gun.	175pts

## BRAZIL

The only vehicle in service is the EE-9 Cascavel and is used by both the Army and Marines. The EE-3 was exported to Cyprus, Gabon, Jordan and Uruguay and the EE-18 Sucuri tank designed in 1987 was never put into production. The first production EE-9 Mk1 vehicles were armed with the 37mm turret taken from old M3 Stuarts, but all subsequent production models and all export models were armed with the 90mm turret.

CASCADEL	6 x 6. 37mm. APDS. cMG,pMG. OFC. 2 / 1 / 0. C B D. HMF. 13t. 100km/hr.	185pts
EE-9(1975)		
1977	6 x 6. 90mm. Heat,Hesh. cMG,pHMG. LFC. 2 / 1 / 0. B B D. HMF. SD1.	285pts
	IINF,IID. 13t. 100km/hr.	
	1990 - As 1977 but replace pHMG with CuHMG and add:- APFSDS.	310pts
JARARACA	4 x 4. pHMG. 2 / 1 / 0. C B E. MMF. IID. 13t. 100km/hr.	140pts
EE-3( 1978)		
	1990 - If pHMG replaced by TwtuMG, size C B D. and add:- SD2.	155pts
	Cyprus - as EE-3 1990 but add MILAN 2 ATGW (1 + 3) launcher fitted to turret. May no reload if suppressed.	320pts
EE-T4	Tr. CuHMG. APDS. 1 / 0 / 0. D C E. VHM. LGP. SD2. IID. 4t. 75km/hr.	200pts
(1993NP)	If CuHMG replaced by TwtuMG.	190pts

## BULGARIA

Vehicles in service are the BRDM-1, BRDM-2 and the BRM-23 the latter being a development of the BMP-23 (see APC section).

BRM-23	Tr. tu23mmA. AP. CuMG. AT-3C(P) SAGGER ATGW (1 + 3) may not reload if suppressed. LFC. 3 / 1 / 0. B A C. HM. SG. IINF,IID, Amp. 15t. 62km/hr.	345pts
(1985)		

## CANADA

Vehicles in service are the M113 C & R and the LAV-25. The LAV-Recce has been ordered for delivery in 1996 and is based on a standard LAV-25 and will replace the M113 C & R (Lynx) vehicles.

LAV-Recce	8 x 8. tu25mmA. APDS. cMG. S2. 1 / 1 / 0. B A D. HMF. SD2. TI*,IID. LRF*	
(1997)	GSR*. Amp. NBC. 13t. 100km/hr.	
	Brigade Level	405pts
	Battalion Level	305pts

\* These items of equipment are mounted on a 10m elevating mast on the Brigade level vehicles while on Battalion level vehicles they are tripod ground mounted with a 200m remote cable connecting it to the vehicle. Size for both is E when vehicle is out of sight.

M113 C&R Tr. CuHMG,pMG. 1 / 0 / 0. C B E. HM. SD1. IRD. Amp. NBC. 9t. 71km/hr. 145pts  
LYNX(1969)

## CZECHOSLOVAKIA

Vehicles in service are the OT-65A, BRM-1 and the VP-90.

VP-90 Tr. 3 + 8. Tu14.5mmHMG. cMG. fps. rhs. 2 / 1 / 0. C B D. HM. SG. IRNF,IRD. 180pts  
OT-90 Amp. NBC. 14t. 65km/hr.  
OT-65A 4 x 4. tuMG,c82mmRCL. Heat. may not reload if suppressed. 1 / 0 / 0. C B E. MMM. 145pts  
FUGa (1964) Amp. 7t. 87km/hr.

## FRANCE

Vehicles in service are the AMX-10RC, ERC-90-F4 and the VBL. The VBC-90 and AML-60/90 are used by the Gendarmerie. The AML-60 and 90 vehicles were replaced by the ERC-90 F4 between 1985 and 1989 and is the main recce vehicle with the Rapid Reaction Force. The ERC-2 (full name ERC-90 F4 Sagaie 2) is slightly longer than the ERC-1 and Gabon is the only user of this vehicle.

The Ultra-M11 is the French designation for the export version of the VBL and is slightly longer than the basic VBL. The LOHR RPX6000, 5000 and 3000 vehicles, designed in the 1980s, have all completed their development phase but as of 1994 have not entered production.

### AMX-10 VEHICLES

AMX-10RC 6 x 6. 105mmLt. Heat. cMG. LFC. 2 / 1 / 0. B A D. HMM. SD1. LLTV,IID. Amp. 260pts  
(1982) NBC. 16t. 85km/hr.  
1984 Morocco - Not Amp. 260pts  
1987 - Add:- APFSDS. 300pts  
Desert Storm 6 x 6. 105mmLt. APFSDS,Heat. cMG. IFC. 3 / 2 / 1. B A D. HMM. SD2. TI,IID. 360pts  
(1991) IRJ. Amp. NBC. 17t. 85km/hr.  
AMX-10RC 6 x 6. 105mm. APFSDS,HEAT. cMG,pMG. IFC. S2. 3 / 2 / 1. B A D. HMM. SD3. 395pts  
TML(1994NP) TI,IID. IRJ. NBC. 17t. 92km/hr.  
TML is the designation of the new designed turret.  
VBC-90 6 x 6. 90mmLt. APFSDS,Heat. cMG. LFC. 1 / 1 / 0. C B D. HMM. SD1. IINF,IID. 260pts  
(1984) NBC. 14t. 92km/hr.

### ERC SAGAIE VEHICLES

ERC-90-F4 6 x 6. 90mmLt. APFSDS,Heat. cMG. LFC. 1 / 0 / 0. C B D. HMF. SD1. IRD. 240pts  
ERC-1(1083) NBC. 8t. 95km/hr.  
1984 - Replace IRD with IINF,IID and add:- Amp(prepare). 265pts  
ERC90-F1 As ERC-90-F4 1984. 265pts  
LYNX  
ERC60-20 As 1984 but 90mm replaced by tu60mmGM firing APFSDS, Cu20mmA and cMG. 255pts  
(1994NP) Weight is 7t and speed 100km/hr.  
If fitted with LFC (60mm GM uses 100mm LFC line on Table 11.6.1, max range 1000m). 295pts  
ERC-2 Gabon - As 1984 but no APFSDS and add:- pMG. Weight 20t speed 110km/hr. 260pts  
(1986) (Gabon is the only known user of this vehicle).

### EBR VEHICLES

EBR-75 8 x 8. 75mm. Heat. cMG,fbMG,frMG. BFC. 1 / 0 / 0. C B D. HMF. SD1. 14t. 185pts  
(1951) 105km/hr. Driving positions front and rear of vehicle.  
EBR-90 As EBR-75 but 75mm replaced by 90mm and fixed MGs removed. 190pts  
(1964)

### AML VEHICLES

AML-90 4 x 4. 90mmLt. Heat. cMG,pMG. BFC. 1 / 0 / 0. C C D. MMF. SD1. IRNF,IRD. 215pts  
(1962) Amp(prepare). 6t. 90km/hr.  
1984 - Add:- APFSDS. 230pts  
AML-S530 Venezuela - As AML-90 1962 but 90mm replaced by Tw20mmA. 200pts  
AML-60-7 As AML-90 1962 but 90mm replaced by tuTwMGs and 60mmMortar (firing HE, Smoke and Illuminating rounds only). 180pts  
AML-HE Ireland - As AML-60-7 but 60mmM replaced by tuHMG. 190pts  
(1993)

HE 60-12	As AML-60-7 above but tuHMG in place of TwMGs.	180pts
HE 60-20	4 x 4. tu60mmGM firing APFSDS. Cu20mmA,cMG. BFC. 1 / 0 / 0. C C D. MMF. SD1. IRNF,IRD. Amp(pre). NBC. 6t. 90km/hr.	210pts
	If fitted with LFC (60mm GM uses 100mm LFC line on Table 11.6.1, max range 1000m).	240pts

#### VBL VEHICLES

VBL	4 x 4. pMG. 1 / 0 / 0. D C E. MMF. IID. Amp. NBC. 4t. 95km/hr.	125pts
Ultra M11(1991)	If pMG replaced by pHMG.	135pts
VBL - Milan	4 x 4. Pintle mounted MILAN 2 ATGW dismountable Launcher (1 + 5) may not reload if suppressed. pMG. 1 / 0 / 0. C C E. MMF. IID. Amp. NBC. 4t. 95km/hr.	285pts
	1993 - Replace Milan 2 with Milan 2T/3	295pts

#### NEW VEHICLES

RPX-600 (1994NP)	4 x 4. tuHMG. APDS. cMG. 1 / 0 / 0. D C E. MMF. SD2. IINF,IID. Amp. NBC. 7t. 110km/hr.	185pts
	If tuHMG replaced by tu20mmA firing APDS.	195pts
VPX-500 (1994NP)	Tr. Dismountable MILAN 2T/3 ATGW Launcher (1 + 6) may not reload if suppressed CuMG. 1 / 0 / 0. D C E. VHM. IID. NBC. 5t. 80km/hr.	330pts
RPX-300 (1994NP)	4 x 4. Dismountable MILAN 2T/3 ATGW Launcher (1 + 6) may not reload if suppressed pMG. 0 / 0 / 0. D C E. MMF. Amp. NBC. 4t. 110km/hr.	280pts

### WEST GERMANY

Vehicles in service are the Luchs and Wiesel. The TH-200, 400 and 800 vehicles were developed in the 1980s as a private venture and as of 1994 none have entered production. However, the designs may well be used as the basis of the new Franco German family of vehicles announced in 1994. The Wiesel was originally developed for use by the airborne forces but has been adopted by the German army where it has replaced the Kraka (4 x 2) light vehicle.

LUCHS (1976)	8 x 8. tu20mmA, AP. pMG. 2s1 / 1 / 0. B A D. HMF. SD1. IRNF,IID. NBC. 20t. 90km/hr.	185pts
	1985 - Replace IRNF with TI and AP with APDS.	220pts
WIESEL (1990)	Tr. tu20mmA. APDS. 0 / 0 / 0. D C E. VHM. IINF,IID. Amp(pre). 3t. 75km/hr.	195pts
WIESEL - TOW	Tu20mmA replaced by TOW 2 ATGW(1 + 6) Launcher, no reloading if suppressed.	295pts
WIESEL 2 (1995?)	Tr. 2 + 4. CuMG. 0 / 0 / 0. C C E. VHM. IINF,IID. Amp(pre). 4t. 75km/hr.	160pts
SPz11-2 (1959)	Tr. tu20mmA, AP. 1 / 0 / 0. D C E. HM. SD1. IRD. 8t. 58km/hr.	155pts

#### NEW VEHICLES

TH-200 (1994NP)	4 x 4. tu25mmA, APDS. cMG. 1 / 0 / 0. C B D. MMF. SD2. IID. Amp. NBC. 9t. 110km/hr.	175pts
TH-400 (1994NP)	6 x 6. 105mmLt. APFSDS,Heat. cMG. IFC. S2. 3 / 1 / 0. C B D. HMF. SD2. IINF,IID. NBC. 25t. 110km/hr.	350pts
TH-800 (1994NP)	8 x 8. 120mmSLt. APFSDS,Heat. cMG. IFC. S2. 4 / 1 / 0. B A D. HMF. SD2. IINF,IID. BNC. 35t. 112km/hr.	390pts

### HUNGARY

Vehicles in service are the FUG, BRDM-2 and the BRM-1.

FUG OT-65(1964)	4 x 4. fpMG. 1 / 0 / 0. C B E. MMM. IRD. Amp. 7t. 87km/hr	95pts
	If fitted with IRNF.	110pts

### ISRAEL

Vehicles in service are the BRDM-2 (without turret), RAM V-1 and the RBY-1. The RAM Light and MACV were both developed as private ventures. The MACV resembles a stripped down jeep while the RAM Light is similar to the RAM V-1 and RBY vehicles and is designed as a replacement for them.

## NEW VEHICLES

MACV (1994NP)	4 x 4. 4 x pMG. S / S / S. D C D. MMF. 6t. 105km/hr.	105pts
MACV-TOW (1994NP)	As above but 3 x pMGs replaced by single MAPATS ATGW Launcher (1 + 24) may not reload if suppressed. Size is D C E.	275pts

## RAM VEHICLES

RAM Light. (1994NP)	4 x 4. 3 x pMGs. 1 / 0 / 0. O.Top. MR. D C E. MMF. IID. 5t. 93km/hr. If 1 x pMG replaced by 1 x pHMG.	155pts 165pts
RAM V-1 (1979)	4 x 4. pHMG, 2 x pMG. 1 / 0 / 0. O.Top. D C E. MMF. IRD. 5t. 93km/hr.	140pts
RAM 106	As RAM V-1 but pHMG replaced by US 106mmRCL and IRD replaced by IINF, IID.	215pts
RAM - TOW	As RAM 106 but RCL replaced by TOW (71B) ATGW Launcher (1 + 4) may not reload if suppressed. 1983 - TOW 71B replaced by ITOW(71C)	250pts 285pts
RAM V-2	As V-1 but not O.Top. and size is C C E.	145pts

## RBV VEHICLES

RBV Mk1 (1976)	4 x 4. pHMG, 3 x pMG. 0 / 0 / 0. C C E. MMF. IRD. 4t. 100km/hr.	145pts
RBV-106	As Mk1 but 1 x pMG and pHMG replaced by a US 106mmRCL.	185pts
BRDM2	4 x 4. 2 x pMG. rhs. 1 / 0 / 0. C B C. MMF. IRD. Amp. 7t. 100km/hr.	120pts

## ITALY

Vehicles in service are the Fiat 6616, and M8 all of which are used by the internal security services while the army is being equipped with the Centauro B1.

CENTAURO B-1 (1992)	8 x 8. 105mm(L/D). APFSDS, Heat. cMG, pMG. AFC. S2. 3 / 1 / 1. B A D. HMF. SD2. TI, IID. LD. NBC. 24t. 100km/hr. 1993 - Armour now 4 / 2 / 1. 1994 - Add:- ERA armour now 4E / 2E / 1. Export - Export vehicles as 1992 but IFC and IINF in place of AFC and TI.	400pts 415pts 435pts 370pts
TYPE 6616 (1974)	4 x 4. tu20mmA, AP. cMG. 1 / 0 / 0. C B D. MMF. SD1. IINF, IID. Amp. NBC. 8t. 100km/hr. 1984 - Replace AP with APDS. With US 106mmRCL mounted on the turret roof.	165pts 175pts +70pts

## JAPAN

Vehicles in service are the Type-82 and Type-87s. The Type-82 is a command and control vehicle based on the Type-87 with the turret removed and replaced by a pMG.

TYPE-87 (1982)	6 x 6. tu25mmA AP. cMG. 2 / 1 / 0. B A D. HMF. SD1. IINF, IID, 14t. 100km/hr.	180pts
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## MEXICO

Vehicles in service are the ERC-90 (Lynx), MAC-1, DN-3 Caballo, Panhard VBL and the old WWII M8.

MAC-1 (1964)	4 x 4. 2 + 8?. tu20mmA. AP. 0 / 0 / 0. C B C. MMM. 7t. 70km/hr.	105pts
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## NETHERLANDS

Only vehicle in service is the M113 C & R. The Netherlands are also developing a new light vehicle called the LATV which is similar to the French VBL.

LATV (1994NP)	4 x 4. CuMG. 1 / 0 / 0. D C E. MMF. IID. Amp. NBC. 8t. 110km/hr.	125pts
M113 C & R (1966)	Tr. CuHMG. 1 / 0 / 0. C B E. HM. SD1. IRD. Amp. NBC. 9t. 71km/hr. 1974 - CuHMG replaced by tu25mmA, AP. size is B B E and add:- pMG. 1984 - Replace 25mmA AP with APDS.	135pts 150pts 170pts



## SOUTH AFRICA

Vehicles in service are the Eland 60 and 90, Ferret, and Rooikat. The Iron Eagle was developed for the Airborne forces as a replacement for the ferret. The Eland is a licenced built French AML vehicle.

<b>ROOIKAT</b> Lynx (1990)	8 x 8. 76mm. APFSDS,Heat. cMG,pMG. IFC. S2. 3 / 1 / 1. MR. B A D. HMF. SD2,SG. IINF,IID. NBC. 28t. 120km/hr.	360pts
<b>Rooikat-35</b> (1994NP)	As above but 76mm replaced by 35mmA firing APDS.	340pts
<b>Rooikat ZT3</b> (1994NP)	As Rooikat 35 plus pod containing 3 x SWIFT ATGW (3+9) mounted on turret top. Size is B A C (D if missiles only in use). 1995? - ZT-3 replaced by ZT-4(P) ATGW.	505pts 585pts
<b>Rooikat 105</b> (1994NP)	8 x 8. 105mm. APFSDS,Heat. cMG,pMG. IFC. S2. 3 / 1 / 1. MR. B A C. HMF. SD2,SG. IINF,IID. NBC. 29t. 120km/hr. If IINF replaced by TI.	390pts 410pts
<b>ELAND 60</b> AML (1964)	4 x 4. 60mmGM (firing HE, Smoke & Illuminating rounds only). cMG,pMG. 1 / 0 / 0. C C D. MMF. SD1. IRNF,IRD. Amp(prep). 6t. 90km/hr.	150pts
<b>ELAND 90</b> (1966)	As above but 60mmGM replaced by 90mmLt firing Heat, add:- BFC. 1991 - Replace IRNF,IRD with IINF,IID.	215pts 225pts
<b>ELAND 20</b> (1994NP)	As Eland 90 (1991) but 90mm and cMG replaced by 20mmA firing APDS.	195pts
<b>Iron Eagle</b> (1993)	4 x 4. US 106mmRCL may not reload if suppressed. pMG. RFC. 0 / 0 / 0. MR(AP only). D C E. MMF. 4t. 100km/hr. If 106mmRCL replaced by pivot mounted Milan 2 ATGW.	210pts 305pts

## SOVIET

Vehicles in service are the BRDM-1, BRDM-2 (both are also used by the Naval Infantry) and the BRM-1. Some Naval Infantry units use the BTR-60 as a recce vehicle in place of the BRDM-2. Details of the BMP3-R have just been released so the details below may not be completely correct and it is not known if it is actually in service by the date given.

<b>BMP3-R</b> (1994?)	Tr. 30mmA. APDS. cMG,twbMGs. LFC. S2. fps. rhs. 3s2 / 1 / 1. B A D. HM. SD2,SG. LD. TI,IID. dismountable GSR? Amp. NBC. 18t. 70km/hr. If fitted with Satellite Positioning.	380pts 400pts
<b>BRDM-2</b> (1966)	4 x 4. tu14.5mmHMG. cMG. 1 / 0 / 0. C B D. MMF. IRNF,IRD. Amp. NBC. 7t. 100km/hr.	150pts
<b>BRDM-2U</b>	Command vehicle, no turret weapons or INF but rectangular box on roof. Size is C B E.	100pts
<b>BRDM-1</b> (1958)	4 x 4. pMG. 1 / 0 / 0. O.Top. D B E. MMM. Amp. 6t. 80km/hr. 1959 - Armoured roof fitted and add:- pHMG and rhs.	90pts 110pts
<b>BRM-1</b> BMP-R(1976)	Tr. 73mmLPG(L/D). AL. Heat. cMG. BFC. 2 / 1 / 0. C B D. HM. SD1,SG. IRNF,IRD. Amp. NBC. 14t. 65km/hr.	240pts
<b>BMP-1K</b> (BMP1976/2)	As BRM-1 but add:- GSR and Laser Rangefinder. Size is C B C when radar and weapons in use.	415pts
<b>BA-64</b> (1944)	4 x 4. tuMG. 0 / 0 / 0. D C E. MMM. 3t. 80km/hr.	100pts

## SPAIN

Vehicles in service are the VEC for the army with AML-60 and 90s in the reserves and the Scorpion for the Marines.

<b>VEC-3562</b> BMR-600(1980)	6 x 6. tu25mmA(CG). APDS. cMG. 2s2 / 1 / 0. C B D. HMF. SD1. IID. Amp. NBC. 14t. 103km/hr. If fitted with IINF.	200pts 220pts
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## SWITZERLAND

Switzerland has no vehicle at the moment specifically designated as Recce. The SPY was exported only. The Eagle is the new Swiss recce vehicle ordered in 1994 for delivery 1995/6. It is based on the US HMMWV chassis and will be used by the Armoured Brigades.

EAGLE	4 x 4. CuMG. 1c1 / 1c1 / 0. C B E. MMF. TI,IID. 5t. 125km/hr.	180pts
SHARK	8 x 8. tu35mmA, APFSDS. cMG. 2 / 1 / 0. C A D. HMF. SD2. IID. 22t. 100km/hr.	225pts
(1994NP)		
SPY	4 x 4. tuHMG. cMG. 1 / 0 / 0. C C D. MMF. SD1. IID. 8t. 110km/hr.	140pts
(1983)		

## TURKEY

Only the old M8 is used at present and these are mainly now in reserve. The Akrep (Scorpion) is a new vehicle which has already been supplied to the Internal Security Services and may now be adopted by the Army (in the form detailed below) for use in the Recce role.

AKREP	4 x 4. 1 + 2. twCuMGs. 1 / 0 / 0. MR(AP only). C B E. MMF. TI,IID. 4t. 125km/hr.	170pts
(1994NP)		

## UNITED KINGDOM

Vehicles in service are the Ferret, Fox, Scorpion and Scimitar but the Fox and Scorpions are due to be phased out of service in 1994/5. The Sabre is a Scorpion hull fitted with the Fox vehicle turret and TI taken from old Chieftans. Also out of service by 1994 is the Ferret Scout Car which is being replaced by Spartans. The new Tracer recce vehicle is not due to enter service until the year 2005 at the earliest.

SCORPION	Tr. 76mm. Hesh. cMG. RFC. 1 / 1 / 0. C B D. VHM. SD1. IINF,IID. Amp(pre).	
(1972)	NBC. 8t. 80km/hr.	255pts
	1985 - Remove Amp(pre).	255pts
	1980 Ireland - As 1972 but cMG replaced by cHMG.	260pts
	New Zealand - As 1972 but no IINF or NBC.	235pts
	Omani and UAE - As 1972 but RFC replaced by LFC and NBC removed.	270pts
SCORPION 90	Tr. 90mm. APFSDS,Heat. cMG. LFC. 2 / 1 / 0. C B D. VHM. SD1. IINF,IID.	
(1983)	NBC. 9t. 72km/hr.	320pts
SABRE	Tr. 30mmA(Rarden). APDS,APSE. cMG(CG). LFC. 1 / 1 / 0. C B D. VHM. SD2.	
(1995)	TI,IID. 8t. 72km/hr.	310pts
	1997 - Replace APDS with APFSDS.	320pts
SCIMITAR	Tr. 30mmA(Rarden). APDS,APSE. cMG. OFC. 1 / 1 / 0. C B D. VHM. SD1.	
(1974)	IINF,IRD. 8t. 80km/hr.	270pts
	1991 - OFC replaced by LFC.	280pts
	1995 - IINF replaced by TI.	300pts
	1997 - As 1995 but replace APDS with APFSDS.	310pts
SALADIN	6 x 6. 76mm. Hesh. cMG.pMG. BFC. 1 / 0 / 0. C B D. HMM. SD1. 12t. 72km/hr.	185pts
(1959)		
FOX	4 x 4. 30mmA(Rarden). APDS,APSE. cMG. 1 / 0 / 0. C C D. MMF. SD1.	
(1974)	IINF,IID. Amp(pre). 6t. 104km/hr.	210pts
FERRET Mk1	4 x 4. pMG. 0 / 0 / 0. O.Top. D C E. MMF. SD1. IRD. 4t. 93km/hr.	105pts
(1953)		
Mk 1/2	As 1953 with armoured roof - remove O.Top	115pts
Mk 2/3	As Mk 1/2 but pMG replaced by tuMG and size is C C E.	115pts
Mk 2/6	As Mk 2/3 but add VIGILANT ATGW (2 + 2) Launchers either side of turret, may not reload if suppressed. Speed is 80km/hr and weight is 6t.	165pts
(1963)		
Mk 4	As Mk 2/6 but add:- Amp(pre).	165pts
Mk 5	As Mk 4 but Vigilant replaced by SWINGFIRE ATGWs (4 + 2) no reloading if suppressed.	270pts
(1970)		
	1991? - Add TI to missile launcher.	290pts
SHORTLAND	4 x 4. tuMG. 0 / 0 / 0. D C E. MMF. SD1. 4t. 120km/hr.	115pts
(1966)		

## UNITED STATES

The only vehicle in service is the M3 Bradley.

M3 BRADLEY (1983)	Tr. 25mmA(CG). APDS. cMG. S2. Twin TOW (71C) ATGW Launcher (2 + 10). 4c3 / 2c3 / 1c2. B A D. HM. SD1. TI,IID. Amp(pre). NBC. 23t. 66km/hr. 1994 - Add:- APFSDS(DU)	455pts 475pts
M 3A1	1986 - TOW replaced by TOW 2, SD1 replaced by SD2 and add:- SG.	470pts
M 3A2	1988 - As M 3A1 but armour is 6c3 / 3c3 / 1c3. weight is 30t. Add:- MR.	520pts
M 3A2 ERA	1994? - If fitted with ERA armour is 6c3E2 / 3c3E2 / 1c3.	560pts
M 3 AODS (1994?)	Tr. 25mmA(CG). APFSDS(DU). cMG. S2. AFC. Twin TOW 2B ATGW launcher (2 + 10). 7c3 / 3c3 / 1c3 / 1T. B A D. HM. SD3(A). TI,IID. LD. Amp(pre). 23t. 61km/hr.	635pts
V-600 (1994NP)	6 x 6. 105mmLt. APFSDS,Heat. cMG,pMG. IFC. S2. 2 / 1 / 0. B A D. HMF. SD2. TI,IID. NBC. 19t. 100km/hr.	360pts
M114 (1963)	Tr. pMG. 1 / 0 / 0. C B E. SM. IRD. 7t. 57km/hr.  If pMG replaced by Cu20mmA, AP. and pMG added at rear.	110pts 140pts
COMMANDO Scout (1985)	4 x 4. TwtuMG. 1 / 0 / 0. D B E. MMF. SD1. 7t. 96km/hr.  If TwMGs replaced by tuHMG and cMG.	125pts 130pts
M 8 (1944)	6 x 6. 37mm. AP. cMG,pHMG. 1 / 0 / 0. O.Top. C B D. HMM. 8t. 90km/hr.	115pts

## IN SERVICE WITH OTHER NATIONS

### AFGHANISTAN

The only vehicle in service is the BRDM-2.

### ALBANIA

The only vehicle in service is the BRDM-1

### ALGERIA

Vehicles in service are the BRDM-2 with the army and AML-60 with the Gendarmerie.

### ANGOLA

The only vehicle in service is the BRDM-2.

### ARGENTINA

Vehicles in service are the AML-90 (army), ERC-90-Lynx (Marines) and the Shortland with the Gendarmerie.

### BAHRAIN

Vehicles in service are the Ferret, Saladin and the AML-90.

### BELGIUM

Vehicles in service are Scorpions and Scimitars

### BENIN

Vehicles in service are the BRDM-2, Panhard VBL and the older M8 and M20 vehicles.

### BOLIVIA

The only vehicle in service is the EE-9 Cascavel Mk2.

### BOTSWANA

In service with the army is the BRDM-2 while the Internal Security Services use the Shortland.

### BRUNEI

Vehicles in service are the Scorpion and Shortland.

### BURMA

Vehicles in service are the Ferret, Humber and Daimler Scout Car.

### BURUNDI

Vehicles in service are th AML-60 and AML-90.

**CHAD**

Vehicles in service are the AML-60 and 90, BRDM-2, ERC 90-Lynx, ERC-90-Sagaie and the EE-9 Cascavel.

**CHILE**

The only vehicle in service is the EE-9 Cascavel which is also used by the marines.

**COLUMBIA**

Vehicles in service are the EE-9 Cascavel, EE-3 Jararaca and the old WWII modified M8s and M20s.

**CONGO**

Vehicles in service are the BRDM-1 and BRDM-2.

**CUBA**

Vehicles in service are the BRDM-1 and BRDM-2.

**DOMINICAN REPUBLIC**

The only vehicle in service is the Landsverk Lynx.

**ECUADOR**

Vehicles in service are the AML-60 and 90 and the EE-9 Cascavel.

**EGYPT**

Vehicles in service are the BRDM-1, BRDM-2 and Commando Scout.

**EL SALVADOR**

The only vehicle in service is the AML-90 (8 only).

**ETHIOPIA**

Vehicles in service are the BRDM-1 and 2 but there service status is uncertain due to the present conflict.

**GABON**

Vehicles in service are the Ferret Mk1 and Mk2, EE-9 Cascavel, AML-60 and 90, EE-3 Jararaca, ERC-90 Sagaie, Panhard VBL and the WWII M8.

**GREECE**

Vehicles in service are the old M8 and M20s of WWII vintage.

**GUATEMALA**

Vehicles in service are the RBY-1 and the old WWII M8.

**GUINEA**

the only vehicle in service is the BRDM-2.

**INDIA**

The only vehicle in service with the army is the BRDM-2 while the Internal Security Services use the Ferret.

**INDONESIA**

Vehicles in service are the Ferret, Saladin and Commando Scout while the marines use the AMX-10 PAC 90. A contract, placed late 1994 with the UK, is for the upgrading of the Ferret and Saladin vehicles.

**IRAN**

Vehicles in service are the Ferret, Scorpion, BRDM-2 and EE-9 Cascavel.

**IRAQ**

Vehicles in service are the AML-60 and 90, BRDM-1, BRDM-2, EE-9 Cascavel, ERC-90 and the PShZ-IV. However the status of these vehicles is uncertain due to the losses in Desert Storm.

**JORDAN**

Vehicles in service are the EE-3 Jararaca with the army and the Saladin with the Gendarmerie.

**KENYA**

Vehicles in service are the AML-60 and 90, Saladin Mk2 and ferret. Internal Security Services use Shortlands.

**KOREA (NORTH)**

The only vehicle in service is the BRDM-2 while the Internal Security Services use the old WWII BA-64.

**KUWAIT**

Vehicles in service are the Ferret, Saladin and Scorpion but the status of these vehicles is uncertain due to losses in the invasion. It is assumed that this role will be taken over by Desert Warrior vehicles in the future.

**LEBANON**

Vehicles in service are the AML-90, Ferret and Saladin although many of the latter are now in the reserve.

**LIBYA**

Vehicles in service are the EE-9 Cascavel, Saladin Mk2, BRDM-2 and the Fiat 6616. Internal Security Services use the Shortland.

**MALAYSIA**

Vehicles in service are the AML-60 and 90, Scorpion 90 and Ferret. Internal Security Services use Shortlands.

**MEXICO**

Vehicles in service are the ERC-90 (Lynx), MAC-1, DN-3 Caballo, Panhard VBL and some old WWII M8s.

**MOROCCO**

Vehicles in service are the AML-20, 60 and 90, EBR-75 (FL-10 and FL-11), AMX-10RC, Eland-60 and 90, BRDM-2 and the Israeli RAM-V1 (some of which are armed with a 106mmRCL).

**MOZAMBIQUE**

Vehicles in service are the BRDM-1 and BRDM-2.

**NEW ZEALAND**

The only vehicle in service is the Scorpion.

**NICARAGUA**

The only vehicle in service is the BRDM-2.

**NIGERIA**

Vehicles in service are the AML-60 and 90, Fox, Saladin Mk2, Scorpion 90, Scimitar, EE-9 and Panhard VBL.

**OMAN**

Vehicles in service are the Scorpion, VBC-90, Ferret, OTO R2.5 and the Stormer APC which is on order for delivery in late 1994 early 1995.

**QATAR**

Vehicles in service are the AMX-10RC and the Panhard VBL.

**PAKISTAN**

There is no dedicated Recce vehicle in service although the Ferret is used by the Internal Security Services.

**PARAGUAY**

The only vehicle in service is the old WWII M8.

**PERU**

Vehicles in service are the Fiat 6616, old WWII M8 and the BRDM-2 which is also used by the Air Force.

**PHILLIPINES**

The only vehicle in service is the Scorpion.

**POLAND**

Vehicles in service are the FUG and BRDM-2.

**PORTUGAL**

Vehicles in service are the AML-60 and 90, Saladin, Ferret Mk4, EBR-75 and the VBL.

**ROMANIA**

Vehicles in service are the TAB-C and the BRDM-2.

**SAUDI ARABIA**

Vehicles in service are the AML-60 and 90 and the OTO R2.5.

**SOMALIA**

Vehicles in service are the BRDM-2, Fiat 6616, Ferret and AML-60 and 90.

**SUDAN**

Vehicles in service are the Ferret, Saladin Mk2, BRDM-2 and the AML-90.

**SYRIA**

Vehicles in service are the BRDM-1 and BRDM-2 while the Internal Security Services use the Shortland.

**TAIWAN**

The only vehicle in service is the WWII M8.

**TANZANIA**

Vehicles in service are the Scorpion and BRDM-2.

**THAILAND**

Vehicles in service are the Scorpion, EE-9 Cascavel and the Shortland Mk3.



**TUNISIA**

Vehicles in service are the AML-60, Saladin and EE-9 Cascavel.

**UNITED ARAB EMERATES**

Vehicles in service are the AML-60 and 90 and Scorpion while the Ferrets and Saladins are in reserve. Internal Security Services use the Shortland.

**UGANDA**

Vehicles in service are the BRDM-2, Saladin and Ferret.

**URAGYAY**

Vehicles in service are the EE-3 Jararaca and the EE-9 Cascavel.

**VENEZUELA**

Vehicles in service are the AML-60 and 90, Scorpion 90 and the old WWII M8 while the marines use the EE-9 Cascavel.

**VIETNAM**

The only vehicle in service is the BRDM-2.

**YEMEN**

Vehicles in service are the BRDM-2 and the Saladin.

**ZAIRE**

Vehicles in service are the AML-60 and 90, Ferret and M3A1 half track.

**ZAMBIA**

Vehicles in service are the BRDM-1 and BRDM-2.

**ZIMBABWE**

Vehicles in service are the Eland-60 and 90, BRDM-2 and the EE-9 Cascavel.

# ANTI-TANK GUIDED WEAPONS (ATGWs)

In the following tables you will note that the penetration values for most missiles are different to those given in Challenger 2000. The reason for this is that I have carried out further research and have found a more realistic method of determining this value.

Missile Name	GEN	Min Range	Max Range	PEN	Control	Warhead	Service Date	Remote Distance	Sights & Notes	Points Cost
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## ARGENTINA

Mathogo A	1	400	2000	20	W		1978	50m		55
Mathogo B	1	400	3000	24	W		1985	50m		65
Cibel - 2K	2	400	3000	28	W/IR		1993 1995	50m	II TI	120 130

## BRAZIL

MSS 1.1	3	70	3000	39	LB		1995?		See MAF-Italy	175
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## CHINA

Red Arrow 8	2	100	3000	26 B	W/IR		1988			105
Red Arrow 8A				32 B	W/IR	Ta	1994?			125
Red Arrow 73	1	500	3000	20	W		1975			60
Red Arrow 73C	2	500	3000	25	W		1985			90

## FRANCE

Eryx (ACCP)	2	25	600	37	W/IR		1985			125
Entac-58	1	400	2000	22	W		1957	110m		55
SS-11/Harpon	1	500	3000	24 B	W		1962/3			40
SS-10	1	600	1600	18	W		1952			35

## WEST GERMANY

Cobra	1	400	1600	17	W		1960	70m		40
Cobra 2000	1	400	2000	18	W		1965	70m		45
Mamba	1	300	2000	23	W		1972	70m		60

## INDIA

NAG	3	200	4500	40	W/IR	Ta	1996?		TI	195
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## INTERNATIONAL

HOT -1	2	75	4000	29 B	W/IR		1977			120
HOT -2	2	75	4000	38 B	W/IR		1986			140
HOT -2T	2	75	4000	47 B	W/IR	Ta	1993			170
HOT -3	2	75	4000	47 B	W/IR	Ta	1993			170
Milan -1	2	25	2000	23	W/IR		1974		II	120
Milan -2	2	25	2000	31	W/IR	P	1984		TI	165
Milan -2T	2H	25	2000	39	W/IR	Ta	1993		TI	175
Milan -3	2	25	2000	39	W/IR		1994		TI	175
ADATS	2	500	8000	39 B	LB		1986			170
Trigat MR	3	50	2000	46	LB	Ta	1997		TI	215
Trigat LR	3	500	5000	46	SIR	V - Ta	1998		TI	240

## ISRAEL

Mapats	2H	65	5000	35 B	LB	P	1984		TI	200
Nimrod	3	1000	26000	47	LD	V	1993?			400

## ITALY

MAF	3	70	3000	39 B	LB		1995?		TI	175
Mosquito	1	360	2300	18	W		1962			50

Missile Name	GEN	Min Range	Max Range	PEN	Control	Warhead	Service Date	Remote Distance	Sights & Notes	Points Cost
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## JAPAN

Type-64	1	350	1800	17	W		1964			45
Type-79	2	320	4000	35 B	W/IR		1984	50m		125

## SOUTH AFRICA

ZT-3 Swift	2	70	5000	32	LB		1989			185
ZT-4 Swift	3	100	8000	38	LB	P Ta	1995? 1996?		TI	245 250

## SPAIN

Aries	3	65	2000	44	SIR	Ta	1996?			190
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## SWEDEN

Bill (RBS56)	2H	150*	2200	24	W/IR	T	1986 1990		TI	145 165
Bill - 2	2H	50*	2200	30	LB?	V - Twin	1998		TI	210
Bantam #	1	300	2000	18	W		1963	120m		30

\*Distance is doubled if firing at helicopters moving.

#known as the BB-65 in the Swiss army (in service in 1967)

## TAIWAN

Kuen Wu 1	1	500	3000	20	W		1979		Sagger copy	60
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## UNITED KINGDOM

Swingfire	2	150*	4000	35	W/IR		1969 1991	100m	TI	155 175
Swingfire 4	3	150*	4000	42	W/IR		1992		TI	205
FITOW	2	65	3750	28 B	W/IR	V - Twin	1990?			150
Vigilant	1	200	1375	16	W		1962/3	80m		50
Malkara	1	600	4000	32 B	W	HESH	1962			95
NLAW 4	3	50	600	30	F0	V -Twin				185

\* Distance is 300 if operator is out of the vehicle

## UNITED STATES

Hellfire A/B	3	1500*	8000*	43	LD		1985			195
Hellfire F	3	1500*	8000*	46	LD	Ta	1989?		Current version	205
Hellfire K (II)	3	500*	9000*	53	LD	Ta	1995			240
Longbow	3	500*	9000*	53	MM	Ta	1997?			245
TOW 71A	2	65	3750	24 B	W/IR		1970			105
TOW 71B	2	65	3750	25 B	W/IR		1977			105
ITOW 71C	2	65	3750	37 B	W/IR	P	1982			140
TOW-2 71D	2	65	3750	37 B	W/IR	P	1983			140
TOW-2A 71E	2	65	3750	38 B	W/IR	Ta	1987			145
TOW-2B 71F	2	65	3750	27 B	W/IR	V-TwinEFP	1991			160
Dragon I	2	65	1000	24 B	W/IR		1974			80
Dragon II	2	65	1000	32 B	W/IR		1992		TI	130
Dragon III	2	65	1500	36 B	W/IR	Ta	1994NP		TI	145
Shillelgh	1	500	4500	26	LB		1967		Gun launched	65
Javelin	3	65?	2000	37	SIR	V - Ta	1997?		TI	215

\* These may vary depending on the method of designation, see Hellfire Text.

## YUGOSLAVIA

9M14MB1	2	500	3000	25	LB	P	1985	50m	Sagger C copy	115
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Missile Name	GEN	Min Range	Max Range	PEN	Control	Warhead	Service Date	Remote Distance	Sights & Notes	Points Cost
<b>SOVIET</b>										
AT-14 Kornet	3H	100	5500	32 B	LB	Ta	1994NP		TI (to 3500m)	210
AT-11 Sniper	2H	100	4000	28 B	LB		1987		Gun launched	70
AT-11A			5000	30 B	LB		1992		Gun Launched	75
AT-10 Stabber	2H	100	4000	22 B	LB		1985		Gun launched	65
AT-12 Sheksna	2H	100	5000	22 B	LB		1987		See Notes	70@
AT-8 Songster	2H	100	4000	24 B	R		1978		Gun launched	60
AT-6 Spiral	2H*	400	5000	24 B	R/IR	Ta	1973			115
AT-6A		400	6000	32 B	R/IR		1989			155
AT-6B		400	7000	32 B	R/IR		1990			165
AT-5 Spandrel	2H#	100	4000	23 B	W		1977			110
AT-5A		75	2500	31 B	W/IR	Ta	1992?		TI	175
AT-4A Spigot	2	70	2000	22 B	W/IR		1973			90
AT-4B		75	2500	28 B	W/IR		1985			100
AT-4C		75	2500	30 B	W/IR	Ta	1992?		TI	130
AT-3A Sagger	1	500	3000	15	W		1961	15m		50
AT-3B	1	500	3000	15	W		1963	15m		50
AT-3C	2	500	3000	20 26	W/IR	P	1974 1985	15m		95 110
AT-3D	2	500	3000	28	W/IR	Ta	1992		Soviets only	115
AT-2A Swatter	1	600	2500	19	R		1964			45
AT-2B	1	500	3500	19	R		1967			65
AT-2C	2	1000	4000	21	R/IR		1975			85
AT-1 Snapper	1	370	2700	17	W/IR		1957			60
AT-7 Saxhorn	2	40	1000	20 B	W/IR		1979			80
AT-7B	2	80	1500	31 B	W/IR	Ta	1990		TI	140
Drakon	1	500	3000	17	R		1968			55

Notes \* Only when fired from Shturm S vehicle. # Only if ground mount being used. @ 140 points when fired from the BMP-3 vehicles.

## KEY TO TABLES

**GEN** Missile Generation. Where 'H' is indicated then this missile as a limited anti-helicopter capability.  
**Range** These are the maximum and minimum ranges in metres  
**PEN** Penetration factor for Challenger 2000. a 'B' indicates that the missile has a Back Blast on launch.

**Control**

W	= Wire Guided	W/IR	= Wire guided with Infra-Red control
R	= Radio control	LB	= Laser Beam riding.
LD	= Laser Designated	SIR	= Scanning Infra-Red
FO	= Fibre Optic cable	MM	= Millimetric Radar

**Warhead**

P	= Pecursor Tip	Ta	= Tandem Warheads
EFP	= Explosive Formed Penetrator	V	= Vertical Attack/ Overfly missile
Kinetic	= Solid penetrator	HESH	= High Explosive Squash Head

**Service Date** Date on which the missile became/to become general issue.

**Remote Distance** Distance the operator may be away from the launcher/vehicle and still control the missiles flight.

**Sights** TI = Thermal Imaging. II = Image Intensifying.

**Gun Launched** Missile is fired from a gun barrel

## **GENERAL NOTES ON ATGWs**

As most ATGWs go through stages of development/upgrade through out their service life it is difficult to determine accurately which variant is fitted to each vehicle at any one time. As a general rule therefore, when the actual variant is not specified consult the missiles in-service date and compare this with the date(s) your game is covering. It should also be noted that where a missile is upgraded then it can be assumed to be fitted to the same vehicles/launchers as the previous missile prior to being upgraded.

### **ARGENTINA**

The Cibel-2K missile is the Mathogo B upgraded to 2nd. generation.

### **CHINA**

#### **RED ARROW 8**

This is mounted on the YW-531 and YW-534 vehicles in quad launchers and has also been tested on the WZ-551 and Mowag vehicles with similar launcher. A ground launcher has now entered service. Recently a variant with a tandem warhead has come into service with the Chinese Army which I have designated as '8A.

#### **RED ARROW 73 and 73C**

These missiles are unlicensed copies of the Soviet Sagger B and C respectively.

### **FRANCE**

#### **ENTAC**

This was the first ATGW to go into service with the French Army in 1957. It was subsequently supplied to the armies of Australia, Belgium, Canada, Indonesia and the USA.

#### **HARPON and SS-11**

These missiles were virtually identical with Harpon having a slightly better guidance system. It is understood that the Harpon did not enter French service but was exported only.

### **WEST GERMANY**

#### **COBRA and MAMBA**

These are similar missiles with the Mamba being the later version with a larger diameter body. The unusual characteristics of these missiles is that they do not need a launcher but are simply placed on the ground and when fired rise vertically before the main motor is ignited.

### **INDIA**

Apart from a note in a back issue of Janes defence weekly I can find no reference to the NAG missile in any of my reference books. I can only assume that the NAG, is still under development and no further details have been issued. Therefore the details in the table are estimated and may prove to be different if the missile is ever produced. The Trishul listed in Challenger 2000 is in fact a SAM missile not an ATGW as originally thought.

India also produces the Milan 2 under licence and Euromissile has developed the 'Flame' upgrade to enable India's AT4 and 5 ground launchers to fire Milan missiles.

### **INTERNATIONAL**

#### **EUROMISSILE HOT**

This was a joint Franco/West German developed missile that can be fired from vehicles or helicopters. A fourth version, the HOT-2MP, is also in production and is specifically designed for behind armour effect by employing steel balls around the edge of a HE warhead and is designed more as an anti-bunker round.

Ground launchers are fitted to the AMX-10P (Saudi Arabia), VCR/TH (UTM-800 turret on Iraqi vehicles most of which were lost in the Gulf War), VAB-VCAC (UTM-800 turret on Qatar and Cyprus vehicles), VAB-VCAC (Mephisto turret on French vehicles).

2 x 3 round launchers are fitted to the AMX-13

A 2 round launcher has been tested on the West German Wiesel 2 vehicle.

A single round launcher is mounted on the West German Jaguar 1 vehicle.



## **MILAN**

This can be ground or vehicle mounted and has a limited anti-helicopter capability against very slow moving helicopters flying below 380 metres. It is not certain that the vehicle turret mounted system has this anti-helicopter capability. Most vehicle mounts are in fact the ground mount and they may be removed in approximately 20 seconds but this does not apply to the turret mounts.

A launcher may fire both the Milan 2 and Milan 2T variants and it is assumed that this also applies to the Milan 3 version. Vehicle mounts are fitted to the following vehicles:-

### **Single mounts (dismountable)**

AMX-VCI (Belgium)  
M113-B-Mil (Belgium)  
AMX-10P (1 or 2 launchers - France)  
Marder 1 (West Germany)  
VAB 4 x 4 (France)  
VBL (France and Mexico)  
EE3 Jararaca (Cyprus).

### **Turret mounts (not dismountable)**

Spartan-MCT (Twin launchers)

Many other vehicles have been tested with both these types of launchers.

The Milan 3 is now due to enter service with the French army and is identical to the Milan-2T but with an improved anti-ECM capability.

## **TRIGAT MR**

This is a multi National development involving France, West Germany and the UK with Belgium and the Netherlands joining later. It has been designed to replace the Milan, HOT and Swingfire missiles currently in service in these countries. The missile can be used from a ground mount or a vehicle mount and in the latter case they will be pivot mounted ground mounts allowing them to be dismounted, however a specialised turret is under development at the present time.

## **TRIGAT LR.**

This is a more sophisticated version combining an all weather and fire and forget capability and can be launched from either vehicles or helicopters. It retains the direct attack capability of the MR version but the guidance enables the operator to use it as a vertical attack weapon this being selected by the operator before launch. The vehicle mounting will be either:-

- a) A twin launcher mounted on an hydraulically operated arm which can extend to a height of 15 metres. Also mounted on the arm is the camera for the TI and a laser rangefinder.
- b) A turret mounting 2 x twin launchers allowing reloading under armour.
- c) A single launcher and sight mounted on the roof of a light vehicle.

This missile is at the advanced stage of development (although a 1998 in service date is more likely) and possible vehicle fits are to be the AMX-10P and VAB (both with 4 round launchers) but can be adapted to fit onto virtually any tracked AFV. It is most likely that this version will not enter service with the UK.

## **ISRAEL**

### **MAPATS**

This is an Israeli missile (previously known as Toga) that is similar in appearance to the US ITOW/TOW-2 missile with an extendable nose probe. It is in service with the Israeli army and is fitted to the M113A1 and RBY Mk1 vehicles (both with single launchers) but can also be fired from helicopters and be mounted on light vehicles such as jeeps.

### **NIMROD**

This is a long range (cruise type) ATGW being developed for an export customer. It is similar in operation to the US Copperhead but flies at a constant height and is launched from a container rather than fired from a gun. It can also be adapted for naval use. It is reported to be in service with an unspecified country but is not in service with Israel. The launch vehicle, for trials purposes, has been an AMX-13 chassis with 2 x 8 round containers.

## **ITALY**

The MAF missile is under development for Brazil (where it is known as the MSS 1:1) and has reached its advanced development stage. It is specifically designed for ground launchers but vehicle and helicopter launchers may be developed in the future. This may be a development of the Sarviero ATGW which was under development some time ago and does not seem to have entered production.

## **JAPAN**

### **Type-79 Jyu-MAT**

This was previously known as the KAM-9 and was designed in the early 1970s. It is mounted on the Type-89 MICV in a single round launcher mounted either side of the turret.

### **Type-64 MAT**

This was previously known as the KAM-3D and was designed in the early 1960s. It was mounted on the Type-60 APC and on light jeep type vehicles in 2 single round launchers.

## **SOUTH AFRICA**

### **ZT-3 SWIFT**

This can be launched from either a vehicle or helicopter or from a ground mount. The vehicle mount is fitted to a modified Ratel MkIII chassis and comprises a turret mounted triple launcher.

The ZT-4 is an improved 3rd generation version of the Swift which has a precursor tip at present but will be fitted with a tandem warhead in the near future.

## **SWEDEN**

### **BILL**

The RBS-56 Bill was the first missile to adopt a Top Attack capability and can be fired from either a vehicle or ground mount. The warhead is canted down at 30 degrees and the missile flies at approximately 1 metre above the line of sight. It is in service with both the Swedish and Austrian (from 1991) Armies and is fitted to both the Pbv-302 and Pbv-L vehicles on a single launcher.

### **BILL 2**

This is a Twin warhead design employing the warhead from the unguided AT-4 round as the forward warhead while the rear one is a new design. Both warheads are canted down at 90 degrees thus making it an overfly type rather than Top Attack.

## **TAIWAN**

The Kuen Wu 1 missile is very similar to the Soviet AT-3 Sagger but with a slightly bigger warhead. They can be ground mounted or fired from a vehicle which is usually an M151 jeep which mounts a quad launcher with an additional 4 reload missile carried.

## **UNITED KINGDOM**

### **SWINGFIRE**

The Swingfire is a sophisticated 1st. generation missile which incorporates an auto-pilot system and therefore I have re-classified it as a 2nd. generation missile.

The missile was originally fitted to the FV438 but this was replaced with the Striker (FV102) mounting a 5 round launcher. The missile is capable of being fired from full defilade and also the controller may be positioned up to 100 metres away from the vehicle, however, note the change in minimum range in the latter case. The missile is also made in Egypt where it is known as the Beeswing, this is fitted to the Walid vehicle on a 4 round launcher but the Egyptians have also developed a ground mount.

The missile is no longer in production and is to be replaced in UK service by the Trigat MR missile.

### **SWINGFIRE 4**

This is an upgrade package developed to improve the missiles control and is being retro-fitted to the basic missiles in current service. It gives the missile a multi-launch and control capability as long as the TI system is capable of operating. As the rules allow for only single launching I have upgraded this version to compensate.

### **FITOW**

This is a UK development of the US TOW-2 missile giving it a vertical attack capability by the replacing of the original warhead with 2 warheads canted downwards and which are fired when the sensor detects the target

### **NLAW.**

This is one of a new family of anti-tank weapons that have been under development since 1987. NLAW 1 appears to be a true LAW (unguided) while NLAW 4 is a guided version using Fibre Optics for control. It can only be assumed that NLAW 2 and 3 are either intermediate developments or are to be the same missile but with different guidance.

## UNITED STATES

### TOW

This is one of the most widely used missiles and has been adapted over the years to combat the introduction of ERA and composite armours, by either the addition of precursor tips, tandem warheads or, as in the latest version, twin warheads that fire down onto the top of a target vehicle. The following vehicles are in service:-

#### Single Launchers

M113 Vehicles

Pvrbu (Sweden)

Jaguar 2 (West Germany)

AIFV (Taiwan)

M42 Mod (Taiwan)

Wiesel (West Germany)

RBV-Mk1 (Israel)

Commando V-150 (Saudi Arabia and Taiwan)

M8 Mod (Columbia)

#### Twin Launchers

M2 and M3 Bradleys

M901

VCC-1 (Saudi Arabia)

YPR-765 PRAT (Netherlands)

NM142 (Norway)

M113A2 (Canada)

LAV-AT 8 x 8 (US Marines)

Piranha 6 x 6 (Switzerland)

A new version, the TOW2-N, is under development using radio command in place of wire guidance.

### DRAGON

Dragon upgrades are designed to be retro-fitted to older missiles ie. Mk1 upgraded to MkII and then upgraded to MkII+ (or Mk-III as it is also referred to). This enables the older missiles to be used and a standard missile system to be available. There is some doubt at the moment whether the Dragon MkII+ upgrade will be put into production as it has not been ordered by the US Army.

### HELLFIRE (AGM-114, HELLFIRE II - AGM-114K)

The initial versions A and B entered service in 1985 and were helicopter mounted only while the current production version, for the army, is the AGM-114F which incorporates a precursor warhead. The Marines use the B version which is similar but incorporates safety features for storage on board ship.

A ground and vehicle launcher system is in an advanced development stage and is being designed for fitting to tracked vehicles such as the Bradley.

There are two methods of firing the current missiles which have an effect on the missiles maximum and minimum ranges stated in the Tables, these are:-

- Autonomous where the firer has a direct line of sight to the target and uses his own laser designator. The range limits in this mode is 750m to 5000m.
- Co-Operative where there is not a direct line of sight by the firer but there is from a second designator. Range limits in this case are 750m to 8000m.

The missiles may also be locked on to the target before launch or locked on after launch. In the latter case the missile may be launched from full defilade but the b) option above must be used.

Various new fuse sensors are being developed these include Radio Frequency/IR Sensors for use against active enemy radars, Scanning Infra Red (also known as Imaging Infra Red) and Millimetric Wave sensors to give the missile a fire and forget capability, the latter being the sensor package for the US Longbow and UK Brimstone variants of the missile.

A vehicle turret system incorporating 2 x Quad launchers is under development which can be fitted to vehicles such as the M113, Bradley and LAV as well as a special mounting for use on light vehicles such as the Hummer.

## SOVIET

### AT-14 Kornet

This is the latest Soviet ATGW details of which have only just been released (October 1994). It is believed to have been designed as a replacement for the older AT-5 Spandrel missiles. Development is complete but as of 1994 it had not entered production as no orders had been received for it.

### AT-11 Sniper (Soviet designation 9M119 Svir)

This is gun launched missile fired from the 125mm guns on the T-72B1 as well as some T-72S (export) vehicles supplied to some favoured customers such as Syria. 6 Missiles carried.

### AT-11A Sniper (Soviet designation 9K120 Refleks)

This is the latest version of the AT-11 which is fired from the 125mm guns on the T-90, T-80U and late versions of the T-72 (after 1992). The missile is virtually identical to the Svir above but has a longer range and an ability to fly 2 metres

above the line of sight until within 500 metres of the target when it adopts a normal direct attack along the laser beam. I have designated this missile as an 'A' variant to distinguish it from the Svir.

#### **AT-10 Stabber (Soviet designation 9M117 Bastion)**

This is a gun launched missile fired from 100mm guns on the T-55 AMV, AM2P, AM2B and the BMP-3 and is believed to use the same guidance system as that for the AT-11. The missile fired by the BMP-3 is slightly different in that it has a different motor casing but is the same in all other respects. The missile can also be fired from the T-12 anti-tank gun, this version being known as the 'Kastet'. 6 missiles are carried by the T-55s while 8 are carried in the BMP-3.

#### **AT-12 (Soviet designation Sheksna)**

This is similar to the AT-10 but is designed to be fired from the 115mm guns of the T-62M vehicles.

#### **AT-8 Songster (Soviet designation 9M112 Kobra)**

This is a gun launched missile fired by T-64B, T-80 and T-80B tanks and as far as is known only used by the Soviet army. 6 missiles carried, although some reports state only 4 carries in the T-64B and T-80.

#### **AT-6 Spiral (Soviet designation 9M114 Skorpion)**

First entered service as helicopter launched missile on the Mi-24s (Shturm-V) and subsequently fitted to the Ka-29 (Helix).

#### **AT-6A (Soviet designation 9M114M1/2 Kokon)**

In 1990 a new vehicle launched system was revealed mounted on a modified MT-LB chassis and known as the Shturm-S. This mount is a single rail launcher (although a twin launcher has been reported) that retracts into the vehicle for reloading. This system gives the AT-6 an anti-helicopter capability and some of the warheads carried have laser proximity fuses specifically for this. An additional 12 missiles are carried. The AT-6A is my designation.

#### **AT-6B (Soviet designation 9M114M Ataka-V)**

The latest version is designed for helicopter (mounted on the Mi-28 Hovac) and ground firing using the existing AT-6 launcher. This may have a NATO designation of AT-9 (the AT-6B designation is mine) and also may not be an AT-6 variant but a follow on to it.

#### **AT-5A Spandrel (Soviet designation 9M113 Konkurs, AT-5B as the Konkurs-M)**

This is a vehicle or ground launched missile and is similar to the Euromissile HOT system. The ground launcher is the same as that for the AT-4 Spigot and either missile can be fired from it. When fired from the ground mount the missile has an anti-helicopter capability. Vehicle mounts include the BRDM-2(3) (5 round launcher) and single rail launchers on the BMP-2, BMD-1M, BMP-30, BMP-23D, BMP-23 and the Fahd 30.

#### **AT-4 Spigot (Soviet designation:- Spigot A = pM111 Fagot, Spigot B = 9M111-2, Spigot C = 9K111M Faktoria)**

Both missiles are similar but the B variant has a longer range and improved warhead. A third variant 'C' is believed to have entered service which is fitted with a tandem warhead.

The missile is fitted to the following vehicles:- Single launcher on the BMD-1P, BMP-1P, BMP-2 and the Sisu XA-180 while the BRDM-2 has a 5 round launcher. In the case of the latter vehicle it has now become a common practice for the centre 3 rails to be loaded with AT-4 and the outer rails with AT-5.

#### **AT-3 Sagger (Soviet designation Sagger A = 9M14 Malyutka, Sagger B = 9M14M Malyutka-M, Sagger C = 9M14P Malyutka-P, Sagger D = M1914-2 Malyutka-2)**

Sagger A can be fired from vehicle or ground mounts, Sagger B can be fired from helicopters or vehicle mounts as well as ground mounts while Sagger C (a second generation variant) cannot be fired from ground mounts. Vehicle mounts are as follows:-

##### Single Launchers

M1985 (North Korea)  
AIFV (Taiwan)

##### Twin Launchers

Type-504 (China)  
M-80 (Yugoslavia)

##### Twin Triple Launchers

BVP M980A (Yugoslavia)  
BRDM-1 (Soviets)

BMD/BMD-1 (all versions)  
BMP/BMP-1 (all versions)  
WZ-501 & YW-309 (China)

BVP 80A/AK (Yugoslavia)  
TAB-77 (Romania)  
OT-64C (Poland)  
SKOT-2B (Poland)

BRDM-1 (Romania)  
BOV-1 (Yugoslavia)  
BRDM-2 (most versions)

The missile is no longer in production in the Soviet Union but the Iranians, Chinese and North Koreans are still thought to be producing unlicensed copies.

#### **AT-2 Swatter (Soviet designation Swatter A = 3M11 Fleyta, Swatter B = Flanga-M, Swatter C = Flanga-MP)**

The AT-2 missile used with the 'Flanga' system is referred to as the Skorpion by the Soviets.

This is a vehicle mounted missile with the A and B versions being mounted on the BRDM-1 and the C version being mounted on the BRDM-2, both vehicles mounting 2 x twin launchers. It is no longer in production.

#### **AT-1 Snapper (Soviet designation 2M2 Shmel)**

This was the first Soviet missile and as far as is known it is no longer in use.

#### **AT-7 Saxhorn (Soviet designation Saxhorn A = 9M115 Metis, Saxhorn B = Metis-M)**

This is a ground launched missile in the same category as the US Dragon. The 'A' version is being made under licence in Bulgaria.

### **DRAKON**

There is very little information on this missile and it is assumed that it was developed for upgrading older heavy tanks such as the T10 and IS vehicles. It is known that it was fitted to the IT-1 vehicle in a Tank Destroyer role but this did not remain in service long as it was replaced by better missile systems.

### **YUGOSLAVIA**

Yugoslavia has developed a Thermal sight for its AT-4 and 5 ground launchers, therefore count these missiles as having TI and use the Soviet AT-4C and AT-5A data after 1993.

## **NEW MISSILES**

There are a number of new missile systems under development which will not enter service until the end of the Decade. I have not included details of these in the tables as there is insufficient published information on them at present.

### **JAPAN**

Japan is reported to be developing a new missile (possibly called the KAM 4) but no details have been released as yet.

### **SPAIN**

Spain is co-operating with Hughes Missiles of the USA to develop a new 3rd generation missile provisionally called the MACAM. It is understood that this will have a maximum range of 2000m and will be controlled by a fibre optic link and an SIR sensor warhead.

### **USA**

#### **PREDITOR**

This is a short range missile designed to replace the US Marine's AT-4 launchers. The warhead is a single EPF type (which travels at Mach 6 on detonation) and fires down onto the target from an overfly position. Possible in service date is 1998/9.

#### **LOSAT (Line of sight anti-tank)**

This is a hyper velocity missile employing a tungsten penetrator rather than a HEAT warhead. The missile will be laserbeam riding but will also incorporate SIR sensors. Range limits will be 900m to 4570m but this may vary with the air launched version.

Possible vehicle mounts are the Bradley and the AG 8 both of which would have their turrets replaced by 2 x 6 round launchers which will be re-loaded in the same way as the MLRS rocket launcher system.



# MISSILES IN SERVICE

In the following lists the users of Milan 2 can also be assumed to have been users of Milan 1.

## EUROPE

**AUSTRIA**  
Bill

**BELGIUM**  
Milan 2, Swingfire (Striker) and TOW 71D.

**BULGARIA**  
AT-6, AT-5, AT-4B and C, AT-3, AT-2 and AT-7A.

**CANADA**  
TOW 71A, B, D and E.

**CZECHOSLOVAKIA**  
AT-6, AT-5, AT-4, AT-3, AT-2.

**DENMARK**  
TOW 71A, B and D.

**FINLAND**  
AT-4, AT-3 and TOW 71C and D.

**FRANCE**  
HOT-2, Milan 2 and 3(1994/5)

**WEST GERMANY**  
HOT-2, Milan 2 and 2T, TOW 71A, B and D.

**GREECE**  
Milan 2, TOW 71A, B and C and Hellfire.

**HUNGARY**  
AT-6, AT-5, AT-4, AT-3 and AT-2.

**IRELAND**  
Milan 1.

**ITALY**  
Milan 2 and 2T and 2, TOW 71A, B, C and D.

**NETHERLANDS**  
Dragon II, TOW 71A, B, C and D.

**NORWAY**  
TOW 71A, B and D.

**POLAND**  
AT-6, AT-5, AT-4, AT-3 and AT-2.

**PORTUGAL**  
Milan 2, TOW 71D.

**ROMANIA**  
AT-3 and AT-2.

**SPAIN**  
HOT-2, Milan 2, Dragon II, TOW 71A, B, C and D

**SOVIET**  
AT-11, AT-10, AT-8, AT-6, AT-5, AT-4, AT-7.

**SWEDEN**  
Bill and TOW 71C and D. Plus Coastal Hellfires.

**SWITZERLAND**  
Dragon II and TOW 71D.

**TURKEY**  
Milan 2, and TOW 71C and D.

## UNITED KINGDOM

Milan 2 and 2T, Swingfire, TOW 71 A, B and C.

## UNITED STATES

TOW, Hellfire and Dragon 1 to 3

## YUGOSLAVIA

AT-4, AT-3, Dragon II and TOW.

## AFRICA

### ANGOLA

AT-4 and AT-3

### CHAD

Milan 2 and TOW 71A and B.

### CONGO

AT-3

### ETHIOPIA

AT-4, AT-3 and TOW 71A and B.

### GUINEA

AT-3 and AT-2.

### KENYA

Milan 2, Swingfire and TOW 71A and B.

### MOZAMBIQUE

AT-4 and AT-3.

### NIGERIA

Milan 1 and Swingfire.

### SOMALIA

Milan 2, AT-3 and TOW 71A and B.

### SOUTH AFRICA

Milan 2, Swift and possibly some ENTAC.

### SUDAN

Swingfire.

### TANZANIA

Red Arrow 73 and TOW 71A & B.

### UGANDA

AT-3.

### ZAIRE

Possibly ENTAC.

### ZAMBIA

AT-3.

## MIDDLE EAST

### ABU DHABI

Milan 2.

### ALGERIA

AT-6, AT-5, AT-4, AT-3 & Milan 1.

### BAHRAIN

Hellfire and TOW 71A, B and D.

### EGYPT

AT-3, AT-2, HOT-2, Milan 1, Swingfire(Beeswing), Hellfire and TOW 71C and D.

## IRAN

AT-3, Red Arrow 73, Milan 1, TOW 71A and B.

## IRAQ

AT-6, AT-5, AT-4, AT-3, AT-2, HOT-2, Milan 2, Swingfire and TOW 71A and B.

## ISRAEL

AT-3, Mapats, Dragon II, Hellfire and TOW 71A, B and C.

## JORDAN

Dragon II and TOW 71A and B.

## KUWAIT

AT-4, HOT-2, Milan 1, Hellfire, TOW 71A, B and C.

## LEBANON

HOT-1, Milan 2 and TOW 71A & B

## LIBYA

AT-4, AT-3, AT-2 and Milan 1.

## MOROCCO

HOT-2, Milan 1, Dragon II and TOW 71A and B.

## OMAN

Milan 2 and TOW 71A and B.

## QATAR

HOT-2, Swingfire and Milan 2.

## SAUDI ARABIA

HOT-2, Swingfire, Hellfire, Dragon II and TOW 71A, B, C and D.

## SUDAN

Swingfire.

## SYRIA

AT-6, AT-5, AT-4, AT-3, AT-2, HOT-2 and Milan 2.

## TUNISIA

Milan 2 and TOW 71A and B.

## UAE

HOT-2, Swingfire and Hellfire.

## YEMEN

AT-3, AT-2, Dragon 2 and TOW 71A and B.

## LATIN AMERICA

### ARGENTINA

Cibel-2K, SS-11 and SS-12.

### CHILE

Milan 2.

### COLUMBIA

TOW 71A and B.

### CUBA

AT-4 and AT-3.

### ECUADOR

HOT-1.

### MEXICO

Milan 2.

### NICARAGUA

AT-3.

## PERU

SS-11.

## URUGUAY

Milan 2.

## VENEZUELA

SS-11.

## ASIA & THE FAR EAST

### AFGHANISTAN

AT-6, AT-5, AT-4, AT-3 & Milan 1.

### AUSTRALIA

Milan 2.

### CAMBODIA

AT-3

### CHINA

Red Arrow 8, 73 and 73C, HOT-1

### INDIA

AT-5, AT-4, AT-3 and Milan 2.

### INDONESIA

Milan 2 and possibly ENTAC.

### JAPAN

TOW 71C and Type-79 (KAM-9).

### KOREA (NORTH)

AT-3 (Red Arrow 73).

### KOREA (SOUTH)

TOW 71A, B and C.

### LAOS

AT-3.

### MALAYSIA

Milan 1 and SS-11.

### PAKISTAN

TOW 71C and D, Milan 2 and possibly Cobra.

### SINGAPORE

Milan 2 and TOW 71D.

### TAIWAN

Kuen Wu 1, Hellfire and TOW 71A, B and C.

### THAILAND

Dragon 2 and TOW 71A, B, C & D.

### VIETNAM

AT-3 and AT-2

# ADDITIONS TO CHALLENGER 2000 RULES

The following section contains additions to the basic Challenger 2000 rules to cover new equipment that is in or to be brought into service within the next few years.

## IR JAMMERS (IRJ)

The object of IR Jammers (sometimes referred to as Dazzle Lights) is to disrupt the sights (IR and TI) fitted to vehicles and ATGW Launchers.

### Effects on ATGWs which have IR and SIR Control

Treat as an IR Sensor and if triggered (12.4.21) use 'Flares/Decoys Deployed by Target' factors in Table 11.8.

### Effects on acquirers using TI

On Table 10.9.3 count the target as having 'Thermal Camouflage' when attempting to acquire.

## RADAR RECEIVERS (RR)

I have not covered these sensors in the rules as I have assumed that any vehicle fitted with SD4(A) would have them fitted as part of the automated response equipment.

## 2nd. GENERATION ERA (E2)

Vehicles are now being fitted with Second Generation ERA (Soviets) or new style Reactive Armours (Western) which is more effective against the new direct attack ATGWs and also Kinetic Energy rounds. Second generation ERA is indicated by the number 2 after the E in the vehicles armour section ie. E2.

Make the following additions to 11.4.24 under the headings 'Chemical Rounds' AND 'Kinetic Rounds':-

-2 if ERA is 2nd. Generation.

## DRIVERS TI

Some vehicles are now having TI fitted for the driver, therefore alter both entries in the end column on Table 9.1.4 to read 25/150. I have classified vehicles fitted in this way as Mine Resistant (MR) as the ability of the driver to spot mines will be considerably enhanced.

## ARTILLERY BATTLE MANAGEMENT SYSTEMS

These systems such as the UK 'Bates', US 'Tacfire', German 'Adler' and to a certain extent the older French 'Atila', are in fact more of logistical and analysis systems rather than purely artillery fire control systems. They are designed to maximise the usage of the artillery available to a commander but they still require a man at one end to see or identify a target, a man in the middle to determine if the target should be engaged and with what and a man at the other end to control the guns/rockets ordered to engage the target. The system only becomes automatic once the 'man' has ordered it to. However, the systems tremendous advantage is its ability to provide commanders with detailed information such as which batteries are available and which are moving to a new position, the quantity of ammunition available to each battery, the types of ammunition available at each battery, ordering re-supply of ammunition, accurately recording the location of targets previously engaged and rapidly transmitting metrological information. In addition to these, and perhaps the most important, is its ability to rapidly sort through all the information being fed into it and come up with a list of target priorities and details of what is available to engage them. However, it should be noted that it still requires the artillery commander to authorise the target engagements before the system can proceed and issue fire orders to the batteries. I therefore suggest that the following rules be used if a 'Bates' type system is paid for:-

- All batteries including rockets and mortars of 120mm calibre or more, that are connected to the system must have AFC and Satellite Positioning. It is assumed that mortars of less than 120mm would not be covered by the system although in reality they could.
- All batteries are bought as Direct Support but their response time will be that of Dedicated batteries.
- An artillery command vehicle must be added to the BGHQ the cost of which is included in the cost of the whole system. If this command vehicle is put out of action then artillery fire control reverts back to the normal system covered by the rules with all batteries responding as Direct Support.
- Requests for fire from an OP or unit commander must be directed to the artillery command vehicle at BGHQ and not to a specific battery.
- When a request is received then any battery covered by the system may be allocated to the fire mission (not just the OPs own battery) as long as it is available to fire.

## US. STINGRAY VEHICLES

Stingray is a new US system (not to be confused with the Stingray Light Tank) that is designed to disrupt enemy fire control optical systems. Little is known of the system other than it is mounted on a Bradley vehicle, has optical sensors, a laser emitter and that both prototype vehicles took part in Desert Storm. As far as is known a Stingray equipped vehicle would operate with a Battalion sized unit and would be capable of disrupting the fire control of enemy vehicles engaging the vehicles in that Battalion.

From the little data published I can only assume that the system only operates when there is a direct line of sight between the Stingray and the enemy firing vehicles, therefore I suggest the following rules be used if these vehicles are fielded:-

- a) The Stingray vehicle must not be suppressed or neutralised and must be in command control of the HQ to which it is attached.
- b) There must be a line of sight between the Stingray vehicle and each enemy vehicle firing on the vehicles in the unit to which it is attached. If there is no line of sight to a specific enemy vehicle then that vehicle's fire is not affected.
- c) If a) and b) apply then all the enemy vehicles attempting to fire must acquire their targets every time (even if they had already fired at the same target last turn) and will count out of vision arc factors.
- d) There will be no automatic acquisition or handed on by friends and 10.1.1 rule will not apply.
- e) The above only applies if the firer is NOT using BFC, RFC or OFC.

## RULE CORRECTIONS AND AMENDMENTS

The following section corrects some errors I have discovered in the rules as well as some clarifications.

### TOWING AND RECOVERY (Replace all of section 8.8 with the following)

**8.8** There is a considerable difference between Towing and Recovering the former being the towing of a trailer or gun or broken down vehicle whereas the latter involves a considerable amount of engineering skill and equipment and may only be carried out by specialist engineering recovery vehicles.

#### **8.8.1 Towing normal loads**

Vehicles towing normal loads such as trailers and guns deduct 5cm from their movement and may reverse a maximum of 5cm per move.

#### **8.8.2 Towing None normal loads**

A vehicle towing a none normal load ie. a broken down or damaged vehicle may only tow such loads when it is on a road or track unless the towing vehicle is a specialist engineer vehicle. These loads may not reverse or move through poor or bad going or cross obstacles unless 8.8.3 above applies.

#### **8.8.3 Recovering**

This is the movement of broken down or damaged vehicles for the first three movement phases after the engineer vehicle arrives and is also the movement rate if the vehicle being towed has to be moved through poor going. The crossing of linear obstacles requires a full move. In subsequent moves (ie 4th onwards) the engineer vehicle may use the X-country towing rate until it reaches a road or track where a none engineer vehicle may then take over the tow.

#### **8.8.4 Towing and Recovery rates for none normal loads**

Vehicle Type	Towing X-Country	Towing on Roads/Tracks	Recovering
Specialist Engineer	10cm	15 / 10cm	5cm
Other vehicles	Not Possible	10 / 5cm	Not Possible

#### **8.8.5 Towing and Recovering weight restrictions**

In general, unless an engineering vehicle, a wheeled vehicle may only tow another wheeled vehicle and only if the towing vehicle is the same or higher basic weight. A tracked vehicle may tow any vehicle as long as its weight is not more than 3t less than the vehicle it is to tow (ie a 25t tank may tow a 28t vehicle). A specialist engineering vehicle may tow a vehicle whose weight is 10t more.

- 1) Table 4.4.2. Alter heading to read:- 'PENETRATION MODIFIERS'.
- 2) Table 13.3.5, First Column alter 95 to 105mm to read:- 95 to 107mm.

- 3) 10.2 First Line, alter 10.2.4 to read '10.2.2'.
- 4) 12.4.2 Second Line, alter IR to read:- 'AR'.
- 5) Table 20.5.4 Section headed 'Mine Resistant Vehicles' A/P column, change first 2 NE's to read 'S' and the S's at the bottom of the column to read 'NE'.
- 6) Pg 86 Mapats entry, change LD to 'LB' and delete the V.
- 7) Table 11.6.1 HMG lines - Alter HMG to read 'MGs'.
- 8) Section 12.4.1 Fully Automatic Response:- Alter the first line to read:- If the target vehicle is equipped with automatic smoke dischargers (indicated (A) after the dischargers number ie. SD3(A)) and has an alarm triggered (a.....
- 9) Table 11.9.2 change 120mmHP to read :- 120mmR' . Also delete the 120mmS APFSDU line (see new data below).

**The Following have already been printed on the inside front cover of re-printed rules.**

- a) 14.9.5 - Artillery Modifiers - Line 8 - Alter note in brackets to read:- + 1 only if mixed calibre weapons.
- b) 8.5.6 Vehicles crossing Streams & Ditches - Add:- Use the Very Steep Slope column on Table 8.7.1 to determine if a vehicle gets stuck when crossing.
- c) Elements equipped with mineclearing equipment do not dice for mine detonation while they are engaged in mine clearing operations.
- d) Rockets are not subject to the artillery ranging rules but they are subject to thenormal deviation rules, the center of the zone being placed over the point determined by the deviation grid (14.5.82).
- e) QR SHEET - Movement Table - Very high mobility - Bad Going column- should read 10 not 0.

## ADDITIONAL PENETRATION TABLES

The following gives the penetration details for new rounds coming into service and also for some older guns that were not included in Challenger 2000. Additions are to Section 11.9 of the rules.

Weapons indicated # are estimated values as there is little information published to date.

GUN	AMMO	HEAT	HESH	250	500	750	1,000	1,500	2,000	2,500	3,000	3,500	4,000
140mmS	APFSDS(DU)	34	-	31	31	30	29	28	27	26	24	21	19
	APFSDS	34	-	30	29	28	27	26	25	24	22	19	18
125mmS	APFSDS(DU)	22	-	24	24	23	22	21	19	17	15	12	8
120mm(HP)#	APFSDS(DU)	24	24	26	26	25	24	23	22	21	20	18	16
120mm S & R	APFSDS(DU)	24	19	25	25	24	23	22	21	20	19	17	15
120mmS(HP)	APFSDS	24	-	23	22	21	20	19	18	17	16	15	13
115mmS	APHE	17	-	12	11	10	10	9	9	8	7	4	2
115mmS (RO)	APFSDS	18	-	16	15	14	13	12	11	10	8	6	4
100mmR	APFSDS	15	-	14	13	12	12	11	10	9	8	4	2
	APDS	15	-	13	12	12	11	10	9	8	7	3	1
90mmLT **	APDS	13	15	12	11	11	10	8	7	6	3	2	
	APC	13	15	10	9	9	8	6	4	2			
20 Pdr	APDS	-	-	12	11	10	9	8	6	5	2		
17Pdr & 77mm	APDS	-	-	11	10	9	8	7	5	3	1		
76.2mm	AP	11	-	6	5	4	3	2	2	1			
75mm	APC	10	-	8	7	6	5	4	4	2	1		
37mm	APDS	-	-	7	6	5	4	3	2	2	1		
	AP	-	-	4	3	3	3	2	1	1			

Notes:-

- a) # This data is for both Rifled and Smoothbore guns.
- b) \*\* Also includes older 90mmR guns.
- c) The 115mmS (RO) is the UK Royal Ordnance produced barrel.

## AUTO-CANNONS

The following Cannon data should be added to or substituted for that given in the Challenger 2000 rules and are a result of new data published in the latest ammunition and retro-fit books.

Cannon Size	Ammunition	250	500	750	1000	1500	2000	2500	3000	3500	4000
45mm Telescoped	APFSDS #	12	11	10	9	8	7	6	5	4	2
35mmA	APFSDS	9	9	8	7	7	6	5	4	3	1
	APDS	8	7	7	6	6	5	4	3	2	1
30mmA Rarden	APFSDS	9	8	7	7	6	5	4	3	2	1
	Rarden	APDS	7	6	6	5	4	3	2	1	-
	Others	APDS	6	5	5	4	4	3	2	1	-
	Others	AP	4	4	3	3	2	2	1	1	-
	Soviet	APDS	5	5	4	4	3	2	2	1	-
	Soviet	AP	4	4	3	3	2	1	1	-	-
30mmA Gatling	APFSDS(DU)	10	9	9	8	7	6	5	4	3	2
27mmA	APFSDS	7	6	6	5	5	4	3	2	1	-
	APDS	5	5	4	4	3	2	2	1	-	-
25mmA	APFSDS(DU)	7	6	6	6	5	5	4	3	2	1
	APFSDS	6	5	5	5	4	4	3	2	1	-
	APDS	5	4	4	4	3	3	2	2	1	-
	AP	4	4	3	2	2	2	1	1	-	-



# CHALLENGER 2000 - POINTS VALUES

The points value of a vehicle or piece of equipment is calculated by adding each of the following points for the armour and equipment carried. Points are not paid for:- Nuclear, Biological and Chemical weapons equipment (NBC) are not costed as they should be used under the strict control of an umpire in a campaign game only. Amphibious capabilities have not been costed as they are rarely used.

## NOTE:-

In the ammunition section of these lists I have only listed the main anti-tank round(s) carried as virtually all guns had or now have the ability to fire most other rounds such as smoke, HE and cannister.

## A - ARMOUR

To determine the armour value of a vehicle add the following:

A vehicle's basic armour is 0 0 0 and has a basic cost of 50 points, add to this 10 points for each frontal armour factor and 5 points for each side and rear armour factors only (not any top armour values).

Deduct 10 points if the vehicle is open topped or per aspect designated as soft (S).

**Special Armours** - Add the following to the basic armour factor:-

SPACED		COMPOSITE		OTHERS	
s1	5pts	c1	10pts	Explosive Reactive Armour (E)	10pts (per aspect)
s2	10pts	c2	15pts	2nd. Generation ERA (E2)	20pts (per aspect)
s3	15pts	c3	20pts	Basic Top Armour (T)	10pts
s4	20pts	c4	30pts	Advanced Top Armour (A)	40pts
		c5	35pts	Mine Resistant (MR)	20pts (10pts if A/P only)

Rear Armour is basic armour + any armour type, ie. 4C2.

Rear Deck & Basic Top armours are the basic armour number only, ie 4 in above example.

Example:-

$$T80U - 14c4E2 / 6c3E2 / 3c2 / 3T = 50 + (140+30+20) + (30+20+20) + (15+15) + 10 = 350pts$$

## B - MOBILITY

Mobility Rating	Fully Tracked	Wheeled and Half-Tracks		
		Fast	Medium	Slow
Very High (VH)	50pts	50pts	30pts	-
High (H)	30pts	30pts	20pts	10pts
Standard/Medium (S or M)	20pts	20pts	10pts	5pts

Low ground pressure vehicles (LGP) + 10pts

If half Tracked + 5pts

## C - TARGET SIZE

The following is based on FRONT and SIDE aspect only (No additions for Hull Down aspect).

SIDE \ FRONT	A	B	C	D	E
A	0	-	-	-	-
B	5pts	10pts	-	-	-
C	10pts	15pts	20pts	-	-
D	-	20pts	25pts	30pts	-
E	-	-	-	-	15pts

## D - MAIN ARMAMENT (Vehicles & Anti-Tank Guns)

The following is for guns firing AP, HVAP, APDS, APHE and all versions of APFSDS. For guns firing only HEAT or HESH see section 'J'. If the vehicle's main weapon is an HMG then use this section irrespective of its type of mounting. To determine the cost of the vehicle's main weapon proceed as follows:

- Guns - Take its penetration value at 2,500m(125cm) and multiply by 10.
- Auto-Cannons and HMGs - Take the penetration value at 1,000m(50cm) multiply by 10 then add a further 10. A further 10 if the gun is multi-barreled ie. Gatling.
- Gun-Mortars use the 500m line and add 10pts.

- d) If a weapon is twin, triple or quad mounted and over 30mm in calibre, then the points are calculated for a single weapon and subsequent barrels are costed at half this points value (rounded up). If the weapon is less than 30mm calibre then use the points system in section 'E' below.

Add 10pts if gun served by an auto-loader (indicated AL on lists).

Deduct 5 points if the gun has limited depression (designated L/D after gun size in the lists).

Deduct 10 points if the weapon is fixed or has limited traverse (designated 'f' after size in lists).

## E - SECONDARY and ADDITIONAL ARMAMENT

Note that this section does not include weapons above 30mm calibre any such weapons are pointed as Main Armament weapons in section D.

Weapon Mounting	MG	12.7mm HMG	14.5mm HMG	20mm/23mmA	30mmA
Co-Axial	5pts	10pts	15pts	20pts	30pts
Pivot or Cupola	10pts	15pts	20pts	-	-
Turret	15pts	20pts	25pts	-	-
Bow or Fixed	5pts	10pts	-	-	-

Note:- if the weapon is twin, triple or quad mounted then count the extra barrels as co-axial to the first.

Example:- A turret mounted twin HMGs with Co-ax MG = 20 (1st barrel) + 10 (2nd barrel) + 5 (MG) = 35pts total.

## F - FIRE CONTROL

Fire Control Type	Tank Guns	Anti-tank/RCL/Auto-Cannon
Vertronic (VFC)	70pts	50pts
Advanced (AFC)	60pts	40pts
Integrated (IFC)	50pts	30pts
Laser (LFC)	40pts	20pts
Optical (OFC)	30pts	15pts
Ranging MG (RFC)	25pts	10pts
Basic (BFC)	10pts	0

## G - STABILIZATION

This applied to main armament only.

S1 = 5 pts

S2 = 10pts

S3 = 20pts

## H - NIGHT FIGHTING EQUIPMENT

Equipment Type	Gunner	Driver	Missile & Support Weapon	Infantry
Thermal Imager (TI)	40pts	15pts	20pts	15pts
Low Light Television (LLTV)	30pts	-	15pts	-
Image Intensifier (II)	20pts	10pts	10pts	10pts
Infra-Red (IR)	15pts	5pts	10pts	5pts

## I - OTHER EQUIPMENT

Smoke Equipment and Anti-Missile defences		Manual Response	Automatic Response (A)
SD1	Basic None-IR smoke discharger	5pts	-
SD2	Smoke discharger deploying IR screening smoke (SDV)	15pts	20pts
SD3	As SD2 but also deploys decoy flares	20pts	25pts
SD4	As SD2 & 3 but also deploys Aerosol Chaff.	25pts	35pts
SG	Vehicle smoke generator	5pts	-
BSG	This is a Battlefield Smoke Generator normally fitted to vehicles who's role is to provide large areas of IR defeating smoke.	30pts	-

If any of the above have an "A" after the number then this indicates an automatic response if the sensors detect the incoming threat.

AMD Anti-Missile Defence (always automatic response) 30pts\*

IRJ Infra-Red Jammer 10pts

\* Many systems are under development but only one example, that of the Soviet multiple rocket system, is thought to be in service at present.

#### Sensors

LD Laser Detector (Sensor) 10pts  
AR Active Radar 20pts

#### Other Equipment

MR Mine Roller 60pts  
MP/F Mine Plough/Flail 50pts  
DZB Dozer Blade 10pts  
FT Flame Thrower 20pts  
FL Flare Launcher or mortar up to 60mm 10pts  
AGL Auto-Grenade Launcher 25pts

### J - HEAT WEAPONS

To determine the cost of Guns, LPGs and RCLs firing HEAT or HESH ammunition only (Tables 11.10.1 and 2) take its penetration value and multiply it by 5. If both HEAT and HESH are available then take the highest value.

If the weapons are twin mounts (ie the Japanese Type-60 with twin 106mm RCLs) then count the full points cost for the first tube and half this value (rounded down) for the second.

### K - INFANTRY ELEMENTS

Where '+crew' is indicated then the points value includes the cost of the half section crew.

a) Full Infantry Elements - with machine pistols or bolt action rifles 10pts

with semi-automatic rifles 15pts

with assault rifles 20pts

b) Half or Crew Section 5pts

c) Add any of the following:-

LMG or BAR 10pts

SAW 5pts

SFMG/HMG + crew 20pts

Light Mortar 5pts

Auto-Grenade Launcher + crew 30pts

Flame Thrower 15pts

Anti-personel/Claymore mine\* 5pts

Anti-Tank Mine\* 15pts

\* for use in defence with tripwires or sensors (see section M for cost of these).

d) Add any anti-tank weapons carried (Note that the points for any ATGWs carried is given in the ATGW table)

Weapon Type	Penetration					
	Up to 15	Over 15	Up to 19	Over 19	Up to 20	Over 20
LAW	0	5	-	-	-	-
LAD	5	10	-	-	-	-
MAD	-	-	15	20	-	-
MAW	-	-	-	-	10	15

Ranging:- If optical or spotting rifle (RFC) + 5 pts  
If laser ranging (LFC) + 10pts.

See also section H for the points values of any night fighting equipment.

#### e) Morale Rating

Grade 1 to 3 -5pts per INFANTRY GROUP only

Grade 4 or 5 0

Grade 6 + 5 points to ALL elements.

Special Forces + 20 points per element.

f) Command Points:- See page 9 of the Challenger 2000 rules for unit command points.

## I - ARTILLERY

### OPs

To determine the cost of individual OP teams add the following to the cost of any vehicle they are mounted in.

Basic OP team	+50pts
Satelite Positioning SAT)	+20pts
Other Positioning	+10pts
Laser rangefinder/designator (LRF/LD)	+25pts
Ground Surveillance RadarGSR	+50pts

### ARTILLERY and MORTAR BATTERIES

To determine the points values of artillery and mortar batteries proceed as follows:

a) Add the FULL points value of each firing element in the battery ignoring all tows and command vehicles.

b) Add or subtract the following in STRICT SEQUENCE:-

- +10% if dedicated.
- 20% If in General support. (-10% only in attack /defence games).
- 50% If battery off table.

c) Then add the following:-

Artillery Radar	+100pts *
Mortar Locating Radar	+75pts*
Sound and Flash ranging equipment	+25pts
Satelite Positioning	+30pts
Other positioning	+10pts
Advanced Fire Control	+75pts
Standard Fire Control	+30pts
No fire control	-50pts

\*If these are available then they must be allocated to a specific counter battery unit.

d) Battle Management Systems +500pts (covers all deployed artillery and any mortars which are over 100mm calibre), see page 86.

### COST of INDIVIDUAL GUNS

e) The following points are added to the points cost of any vehicle the gun is mounted on. To determine the points value per gun multiply the Range Factor by the guns Burst Fire Number from Table 14.9.4 in the rules.

	MAX. RANGE in KMs*				
	Up to 10	10 to 15	15 to 21	21 to 31	Over 31
FACTOR	5	7	8	9	10

\* Maximum Range is the range of a basic HE shell (not RAP or Base Bleed)

If RAP or Base Bleed ammunition available	+5pts
If CLGPs or SMART Rounds/Sub-Munitions available	+20pts
If Bomblet or Minelet available	+25pts
If carriage fitted with an Auxilliary Power Unit (APU)	+5pts
If a Pack Howitzer	-5pts

### COST of INDIVIDUAL MORTARS

f) Points values of Basic Mortars to be added to the cost of any vehicle it is mounted on. Multiply the Range Factor from the following table by the mortars Burst Fire Number from Table 14.9.4 in the rules.

	RANGE UP TO										
	800m	1250m	1999m	2999m	3999m	4999m	5999m	7499m	8499m	9499m	9500m +
Factor	2	6	7	8	9	10	10.5	11	12	13	13.5

If SMART rounds available +20pts

Note:- Gun/Mortars are costed as vehicle main armament see section D.

## **COST of ROCKET LAUNCHERS**

h) Points values of Basic Rockets to be added to the cost of any vehicle points cost.

First find the Type Number by multiplying the rocket's calibre in mm's by the number of rockets mounted on the vehicle/trailer, and consult the following table:-

Type Number UP TO	NUMBER OF ROCKETS ON SYSTEM				
	1 to 4	5 to 7	8 or 9	10 to 24	25 +
1250	5	4	3	2	-
2500	-	-	3	3	2
3500	-	-	-	2	1
Over 3500	-	-	-	2	1

Now multiply the number from the table above by the Range Factor (below)

**RANGE FACTOR :-** Up to 9km = 2, 9 to 15km = 2.5, Over 15km = 3

Now multiply the result by the Rockets Fire Number from Table 14.9.4 in the rules and round up to the nearest 5 points

## **M - ELECTRONICS**

Man portable Ground Surveillance Radar (GSR)	50pts
Mounted Ground Surveillance Radar	150pts
Radio Intercept equipment	150pts
Jamming - per level used	100pts
Tripwire or Remote Control unit*	10pts
Sensor Control unit	20pts

\* Add these points to the cost of the weapon or charge it is to be attached to.

## **N - ENGINEERING**

Note :- Round any points totals up to the nearest 5 points.

To dig in a dismounted element	+ 10% of the elements cost.
To provide overhead cover for above	+ 5% of the elements cost
To Camouflage a dug in element	+ 5% of the elements cost.
Log bunker to house 1 element/heavy weapon	30pts
Concrete bunker to house 1 element/heavy weapon	60pts
Anti-tank ditch	25pts per 50m length
Anti-tank barricade	20pts per 50m width
Barbed wire	5pts per 50m length
Bridging	100pts per 50m length
Ferry to carry 1 MBT or 2 smaller vehicles	50pts
Assault boat to carry 1 infantry element	10pts
Portable mine detection equipment	10pts per element
Vehicle mounted mine detection equipment	50pts per vehicle
Rocket line for mine/wire clearing	10pts per 20m length
Fuel Air explosive	+ 100pts per vehicle.

### **Specialist Vehicles**

The following points are a guide only and are added to the basic vehicle cost. These vehicles will be described and pointed in detail in a later handbook.

Specialist mine clearing vehicle	200pts
AVLB	150pts per vehicle
Engineer/Recovery Vehicle	5pts per tonne of weight



## 0 - MINES

Mined Area Type - Cost per 100m x 40m area per 10% density. (Dummy fields cost 25 points per area)

	Anti-Tank	Anti-Personel
Buried	10	5
Surface or Scatter	5	5

## P - SOFT TRANSPORT

The following is a guide only to pointing soft vehicles, a full system and details of these vehicles will be produced in a future Soft and Engineering Vehicle Handbook.

Fast attack vehicle	40pts	Tracked heavy lorry	60pts
Jeep/Landrover/load platform	20pts	Bicycles per section	5pts
Truck up to 2 tonne	30pts	Motorcycles per section	10pts
Truck up to 8 tonne	35pts	Animals to carry one section	10pts
Heavy truck over 8 tonne	40pts	Animals to tow or Pack	5pts
Artillery Tractor	50pts	an individual weapon	

## Q - ANTI-TANK GUIDED MISSILES

To determine the points value of an ATGW add the following factors:-

- 1 point per 100m of maximum range
- 1 point per 20m of minimum range (maximum of -50)
- GENERATION 1st. = 20 points, 2nd. = 50 points, 3rd. = 60 points.
- WARHEAD
  - Percursor tip (P) 5pts
  - Tandam Warhead (Ta) 10pts
  - Explosive Formed Penetrator (EFP) 10pts
  - Twin (Vertical Attack only) +10pts
- GUIDANCE
  - Wire (W) 5pts
  - Infra-Red Control (IR) +5pts
  - Radio Control (R) 10pts
  - Fibre Optic Control (FO) 25pts
  - Laser Beam Riding (LB) 25pts
  - Laser Designated (LD) 25pts
  - Scanning Infra-Red (SIR) 20pts
  - Millimetric Radar (MM) 30pts
- PENETRATION
  - Upto 19 20pts
  - 20 to 25 30pts
  - 26 to 30 40pts
  - 31 to 40 60pts
  - Over 40 80pts
- OTHERS
  - Backblast (B) -20pts
  - Top Attack (T) +20pts
  - Vertical Attack (V) +25pts
  - Anti-Helicopter Capable (H) +10pts
- Plus the cost of any II, TI, LLTV or IR equipment fitted.
- Halve the final total if the missile is Gun Launched and the gun can also fire APFSDS or HEAT.

## R - ANTI-AIRCRAFT MISSILES

To determine the points value of an Anti-Aircraft Missile system add the following factors:-

- 5 points per km of maximum range (maximum of 100pts).
- 2 points per 100m of minimum range (maximum of -50).
- Subtract each altitude factor from 20 and add the results together.
- GUIDANCE
  - Infra-Red (IR) 5pts\*
  - Radar Command (CMD) 10pts
  - Laserbeam Riding (LB) 20pts
  - Semi Automatic Radar(SAR) 30pts
  - Radio (R) 5pts
  - Infra-Red Homing (IRH) 15pts
  - Fibre Optic (Fibre) 20pts

\* Add to (LB) factor if IR/LB guidance.

### 5) RADAR

#### RADAR FACTOR

Radar Type	5	4	3	2	1
Fire Control	20	40	60	80	100
Aquisition	10	15	20	25	30

- If 'Tail Chase' only type -5pts
- If equiped with ADADS +20pts.
- Plus the points cost of any II, TI, LLTV or IR equipment fitted.

# INDEX

This section is an index of vehicles providing an easy way of finding a particular vehicle within the book as long as you know either its name or identity code letters ie. the UK WARRIOR or MCV 80.

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## **MODERN EQUIPMENT HANDBOOKS FOR CHALLENGER 2000 RULES**

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