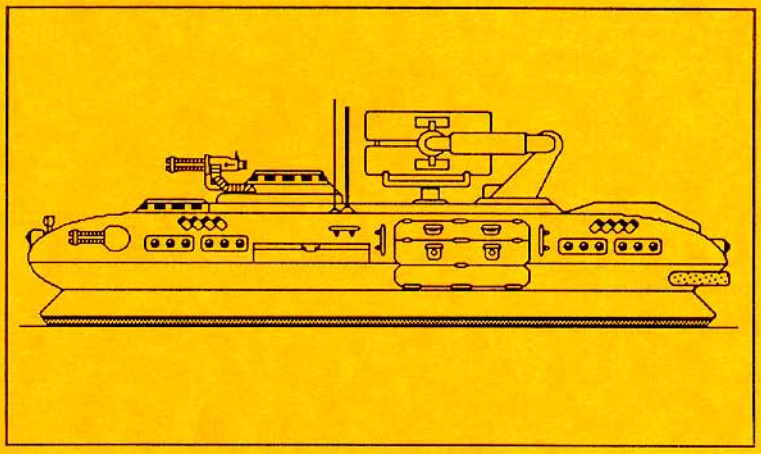
The ADJUTANT

RM-90-05

Imperial Armed Forces Vehicle Guide, Altair Sub-Sector

Set Number Five, *Grav*



Acknowledgments

Anyone who has ever tried to design new and innovative vehicles for a science fiction game realize the complexities involved. Great amounts of time are spent in calculating and designing all the components that make up futuristic combat vehicles. Staying up until the wee hours of the morning before the gaming session vainly trying to get the last little details worked out for detail greedy players. As GMs, we have all been placed in this unenviable position.

It is my intent to save you the time and aggravation required to put vehicles into your campaign. I hope you find this and future guides useful. My thanks and deepfelt gratitude go to the following individuals for their help in working as many of the "bugs" out of this package as is possible:

Jonathan Krost for his production assistance,
Steve Popp for his valuable technical assistance and experience,
Ferdinand Metzger for his technical assistance.

Thanks to these friends and the rest of the Marina Gaming Club without whose help this project would never have been.

Mark Schmidt

Introduction

Thank you for your purchase of this vehicle guide. It contains grav vehicles designed for use with Traveller® and the Striker® science fiction role playing systems. However, the specifications are comprehensive enough that conversion to other systems should cause no problems.

With the advent of small, functional fusion drives, and the radical breakthrough in room temperature Superconductivity, it was not long before the two were merged to create vehicles that travelled without the encumbrance of wheels, tracks or even an air containment skirt. Called "anti-grav" propulsion in the early years, these vehicles soon became known simply as "Gravs" or "A-Gravs" by oldtimers.

While the exact way in which this type of propulsion system functions is best left to physics majors, what follows is a greatly simplified explanation of how these vehicles maneuver.

The fusion motor in the vehicle drives a large electrical generator. The power produced is fed to several superconductive coils located at the bottom of the vehicle. When sufficient power is applied, gravity is overcome, much like putting two magnets together. By applying additional power or reducing it, vertical movement is achieved. Forward propulsion is accomplished by slightly rotating the coils in the opposite direction of travel desired. Thus the vehicle is pushed at an angle rather than in the pure vertical plane. By interupting the power in the coils in microsecond pulses, horizontal momentum is created without vertical. Shorten the pulse and the craft rises, lengthen the pulse and it will drop. This may be a simplisic explanation, but at only $4.95 for this guide, it will have to do. Besides, it works for me.

Early vehicles were forced to sacrifice maneuverabiltiy whenever the high energy main armament was used. The vehicles in this guide are designed to allow power for maximum movement while designating sufficient power for the energy consuming weapons and still reserving plenty of power for internal systems.

All vehicles have food & supplies for their crew for at least one week with small arms and ammunition for each crewmember. Once in a combat environment, the crew often personalize their vehicles. Because of this and the fact that spare parts and supplies can be scarce, it is not uncommon to find extras of everything that can be strapped on, buckled in or shoved under any usable space in the crew compartment or on the outside of the vehicle.

The biggest disadvantages of grav vehicles are the need for highly trained crews, and lack of redundant propulsion. While the ride in these vehicles are extreamly smooth, should one or more of the maneuver coils fail or be damaged these craft tend to "fly like a wet rock". Most are prone to flipping on their backs if they are high enough when the coils fail. While there is no physical limit to the altitude these craft can attain (up to .25 G's) , since the most critical part of these craft are, in fact, the coils

located on the bottom of the chassis, most stay within 2-6 meters of the ground. They do fly Nape of the Earth at 50-100 meters altitude but only when approaching FEBA. Large landing ships are used to ferry them from orbit to planetfall and back again. All the vehicles in this guide are designed to operate in gravity rated at .8 to 1.2G's. They can operate outside this parameter but performance would be seriuosly affect and would have to be recalculated by the GM. Still, because of the smooth ride, high energy weapons are perfectly suited for this type of platform.
The availability or nearly unlimited power from the fusion drives and new manufacturing processes allow these vehicles to carry armor protection to rival that of some Naval vessels. Only the largest calibre guns can penetrate (or a very lucky shot). Conversely, high energy weapons on these tanks are capable a dealing out punishing damage to virtually all armored vehicles likely to be encountered.

Because of the high lethality these vehicles possess, they are often encountered in much smaller organizational units than normal. For example, often times 5 grav-tanks will constitute a full company.

The final point to address is the use of chemicaly propelled munitions vs. high energy weapons for secondary armament and the one tank killer. The decision to use CPR guns was based having a back-up should anything happen to the power plant. Lessons learned from 20th century fighter aircraft were applied to these vehicles. Since the use of guns were considered mandatory, they have been developed to a state of the art condition, able to spew out vast amounts of amunition in a short time. All use a version of the Rapid-Fire, 3-Barrel Gatling gun.

Because high energy weapons are a direct fire weapon, several new missles were produced to allow for indirect fire support. These are listed with the vehicles that carry and fire them. All the missiles carry some type of smart package.

I hope this brief explanation helps in the use of these vehicles in your campaigns. I will be happy to answer any questions or clarify an unclear point, simply enclose an S.A.S.E. with your questions and I will return an answer to you. Look for future sets outlining other vehicle families.

Also write for a sample issue of The ADJUTANT, a newsletter written for Traveller Army, Marine and Mercenary characters. Published six times a year, each issue is full of rules variants, suggestions, personal weapons, etc. At only $9.00 per year, it's one of the best deals in the Imperium.

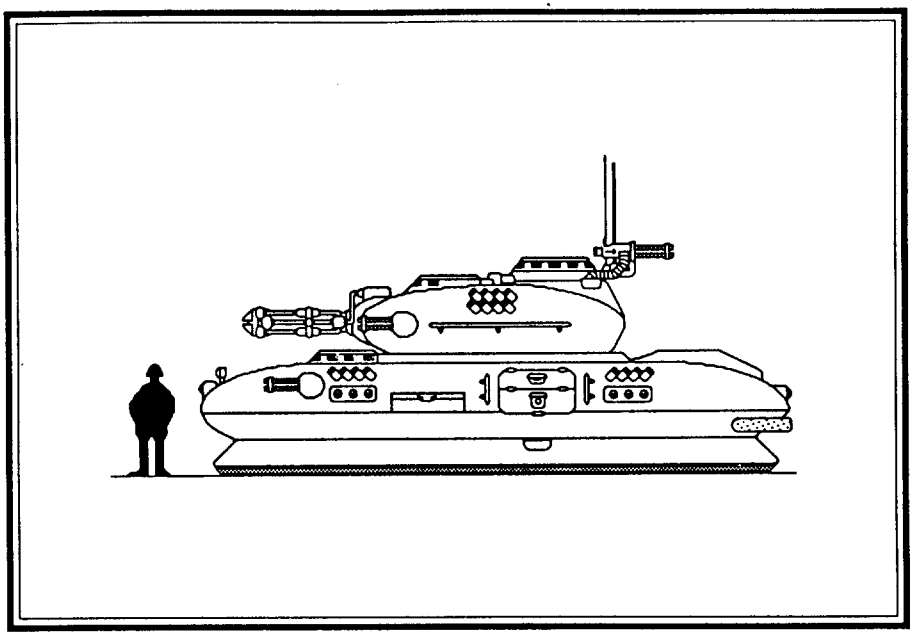
Mark Schmidt

M-709

The M-709 is a medium AFV of the MBT class used in Mechanized Infantry units or in Medium Armored formations. Main armament consists of a Telstar Mk VI Fusion Gun. The Mk V is also available. Two chassis mounted 5mm VRF Tri-Barrel LMGs, one Tri-Barrel LMG mounted on the commanders coupola on the turret and one coax mounted LMG serve as secondary armament. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis or 16 launchers mounted on the turret. This vehicle is equipped with life support and an RDFSS System. An APERS defense systems is installed on the chassis and firing ports for small arms are installed in the side hatches.

SPECIFICATIONS:

Dimensions:	11 m L x 4 m W x 4 m H, DM Low hit +3, high hit +1				
Combat Weight:	60 metric Tons				
Power Plant:	Fusion, 180 megawatt output				
Fuel Req.:	90 liters/hour, 900 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	45/945	30/630	20/420	10/140	10/140
	Turret: 25/525	25/525	10/140		
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	1,770 kph (when flying above NOE level)				
Max. Eff. Rng:	1,900 km				
Weapons:	Main: Mk VI Fusion Gun (Std), Mk V Fusion Gun (opt'l)				
	Aux.: Four 5mm VRF Tri-Barrel LMGs				
Range: (Main)	by type, see opposite				
(Aux)	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	Main: 1 or 2 shots / turn by type (every other turn 2 or 4 shots)				
	Aux: 750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Main: N/A				
	Aux.: linked belt from electric drive, 20,000 rounds, ea.				
Crew:	4 - Driver, Gunner, ECM-E/W Officer, Commander				
Defense:	5k pwr Radio Jammer, ECM/EW, Point Defense, NBC, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k Pwr Radio, Mk V FCS, L3TV				
Cargo:	none				
Flotation:	No				
Misc.:	Storage Batteries for Main Gun (one discharge every other turn)				
Price:	3.7 million cr (w/ Mk V gun add 100,000 cr)				



Effects:

Mk V Rapid Pulse Gun	Effective	Long	Extreme
Range in km:	5.25	10.5	21
Bonus to Hit:	+2	+2	+2
Penetration in mm:	710	590	360
Burst Radius in meters:	5	3	1
Frag. Pent. in mm :	550	430	200

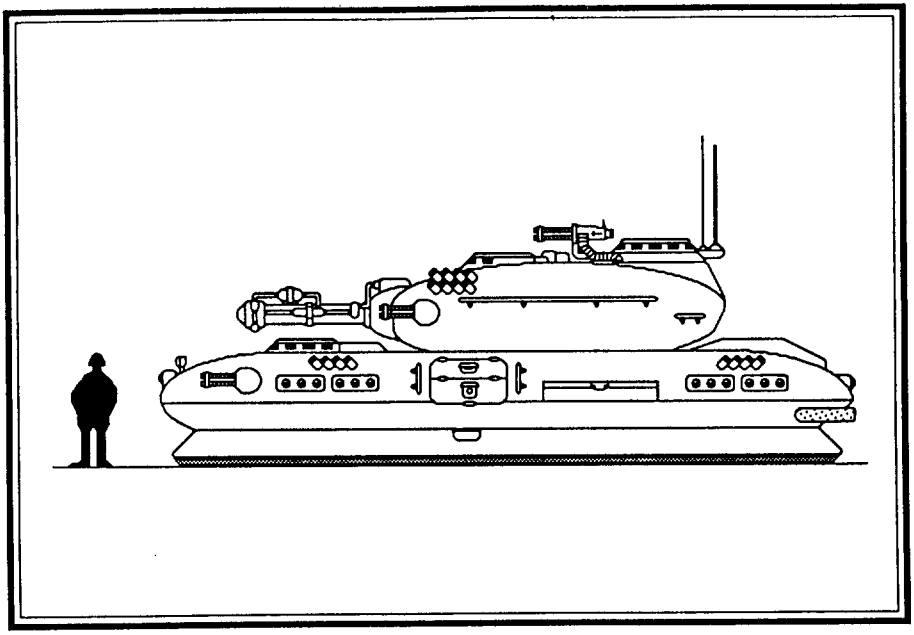
Mk VI Fusion Gun	Effective	Long	Extreme
Range in km:	4.5	9	19
Penetration in mm:	690	570	320
Burst Radius in meters:	4	2	1
Frag. Pent. in mm :	500	390	170

M-710

The M-710 is an AFV of the MBT class used in heavy shock troop units to create openings at the FEBA for mechanized infantry to exploit.. Main armament consists of a Telstar Mk V Fusion Gun. The Mk VII is also available. Two chassis mounted 5mm VRF Tri-Barrel LMGs, one Tri-Barrel LMG mounted on the commanders coupola on the turret and one coax mounted LMG serve as secondary armament. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis or 16 launchers mounted on the turret. This vehicle is equipped with life support and a Rapid Deploy Fire Suppression System. An APERS defense systems is installed on the chassis and firing ports for small arms are installed in the side hatches.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 4 m H, DM Low hit +3, high hit +1				
Combat Weight:	93 metric Tons				
Power Plant:	Fusion, 180 megawatt output				
Fuel Req.:	90 liters/hour, 900 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
	Turret: 30/630	20/420	10/140		
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	1,770 kph (when flying above NOE level)				
Max. Eff. Rng:	1,900 km				
Weapons:	Main: Mk V Fusion Gun (Std), Mk VII Fusion Gun (opt'l) Aux.: Four 5mm VRF Tri-Barrel LMGs				
Range: (Main)	by type, see opposite				
(Aux)	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	Main: 1 or 2 shots / turn by type (every other turn 2 or 4 shots) Aux: 750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Main: N/A Aux.: linked belt from electric drive, 20,000 rounds, ea.				
Crew:	4 - Driver, Gunner, ECM-E/W Officer, Commander				
Defense:	5k pwr Radio Jammer, ECM/EW, Point Defense, NBC, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k Pwr Radio, Mk V FCS, L3TV				
Cargo:	none				
Flotation:	No				
Misc.:	Storage Batteries for Main Gun (one discharge every other turn)				
Price:	4 million cr (w/ Mk VII gun add 200,000 cr)				



Effects:

Mk V Rapid Pulse Gun	Effective	Long	Extreme
Range in km:	5.25	10.5	21
Bonus to Hit:	+2	+2	+2
Penetration in mm:	710	590	360
Burst Radius in meters:	5	3	1
Frag. Pent. in mm :	550	430	200

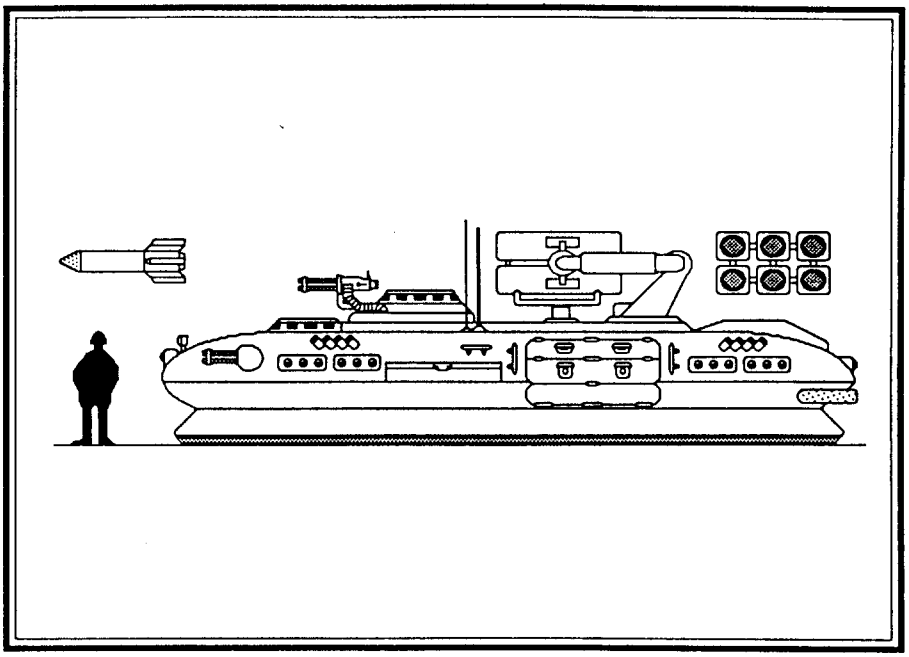
Mk VII Fusion Gun	Effective	Long	Extreme
Range in km:	7.5	15	30
Penetration in mm:	790	680	450
Burst Radius in meters:	7	5	2
Frag. Pent. in mm :	630	520	290

M-735

The M-735 is a SPL/MRS platform used in the SPAW role in support of ground forces at the FEBA. Located behind the commander's coupola is a "six pack" of long range missiles. Several warhead types from tank killers to cluster munitions against ground targets are available. This platform can launch one or all of its load at once. Two chassis mounted and one coupola mounted VRF Tri-Barrel LMGs provide close-in defense. An APERS defense systems is installed as are smoke dischargers and firing ports for small arms in the side hatches. This vehicle is equipped with life support and an RDFSS. Replacement missiles are normally carried in an M-745 AASV. This vehicle is normally deployed in a 3 vehicle battery with an M-789 as BCC

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 4 m H, DM Low hit +3				
Combat Weight:	66 metric Tons				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/360	20/420	5/70	5/70
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	1400 kph (when flying above NOE level)				
Max. Eff. Rng:	1,620 km				
Weapons: (main)	Six Thunderclap Missiles (see opposite)				
(aux.)	Three 5mm VRF Tri-Barrel LMGs				
Range: (aux)	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds, ea.				
Crew:	3 - Driver, ECM/EW Officer, Commander				
Defense:	5k pwr Radio Jammer,ECM/EW, Point Defense, NBC, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS, L3TV,				
Passengers:	0				
Cargo:	0				
Misc.:	Retractable Missile-Pack reloading crane				
Flotation:	No				
Price:	2.79 million cr (+ missile cost)				



M-420 Thunderclap Missile System
Specifications:

	Anti-Tank(1)	A-T(2)	APERS	APERS
Warhead:	Multiple-AP	Same	HE / HEI	CBM
Penetration:	410 mm	205mm	380/50/50*	30x60 m /50mm pent.
Fuse:	Delayed	Delayed	Proximity	Proximity
Guidance:	IR-STAFF	IR-STAFF	L3TV-STAFF	L3TV-STAFF
Range:	1 - 150 km	1 - 100 km	1 - 150 km	1 - 100 km
Weight:	325 kg	450 kg	325 kg	350 kg
Price:	5,000 cr	15,000 cr	4,000 cr	7,000 cr

* contact penetration / radius in meters / fragmentation penetration

(1) Missile has 4 independent warheads capable of targeting 1 to 4 vehicles.

(2) Missile has 12 independent warheads capable of targeting 1 to 12 vehicles

M-745

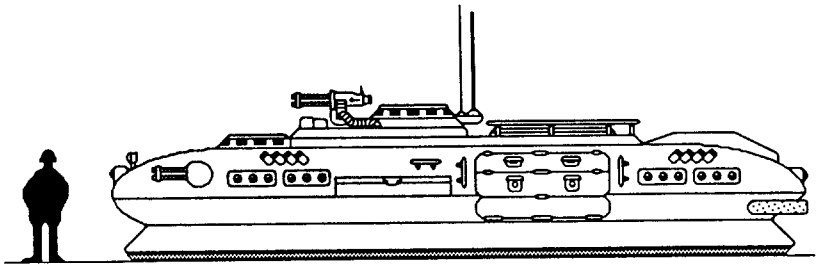
The M-745 is an APC of the AIFV class used to deliver combat troops to FEBA locations under fire. It carries 8 heavy infantry equipped with combat armor or 10 medium infantry. Two chassis mounted 5mm VRF Tri-Barrel LMGs and one VRF Tri-Barrel LMG mounted on the commander's coupola serve as the main armament. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis and firing ports for small arms are located on the side hatches. This vehicle is equipped with life support and a Rapid Deploy Fire Suppression System and an APERS system. Variations curently in inventory are M-745-A MEV and M-745-B AASV shown at right.

SPECIFICATIONS:

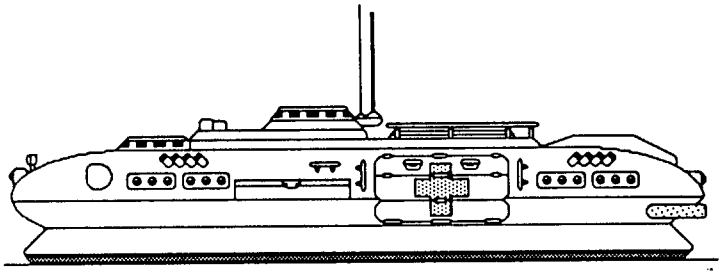
Dimensions:	12 m L x 4.8 m W x 2.25 m H, DM Low hit +3				
Combat Weight:	90 metric Tons				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	720 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:	Three 5mm VRF Tri-Barrel LMGs				
Range:	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds, ea.				
Crew:	3 - Driver, Gunner, Commander				
Defense:	5k pwr Radio Jammer, E/W-ECM, Point Defense, NBC, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side) 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS w/Point Defense, L3TV & IR				
Passengers:	By type see below				
Flotation:	No				
Price:	2.5 million cr				

M-745 APC:	Up to 10 troops
M-745-A MEV:	8 litters and 2 corpsman
M-745-B AASV:	10 tons cargo

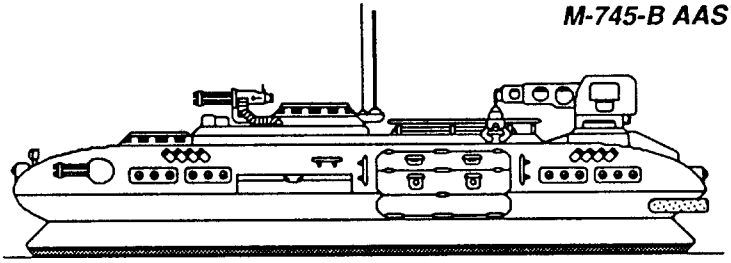
M-745 APC



M-745-A MEV



M-745-B AASV



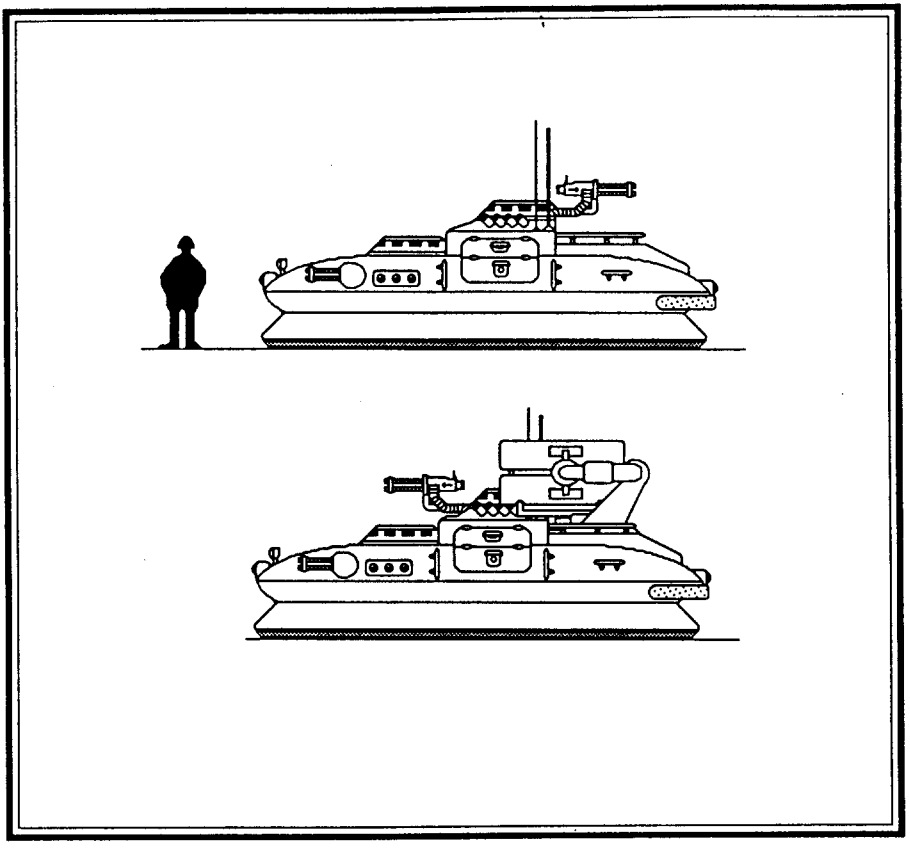
M-747

The M-747 is an ARSV of the CRV class used in reconnaissance roles in advance of main column at FEBA locations. Armament consists of two chassis mounted 5mm VRF Tri-Barrel LMGs and one VRF Tri-Barrel LMG on the commanders' coupola. Defensive prismatic aerosol can be generated from eight "smoke launchers" on the chassis. This vehicle is equipped with life support and a Rapid Deploy Fire Suppression System. An APERS defense systems is installed on the chassis and firing ports for small arms are installed in the side hatches. These vehicles may also serve as flank security elements. An option for this vehicle is a hunter package armed with a four pack of "Osprey" missiles. Due to space restriction, these scouts can carry only one type of missile in a dedicated role.

SPECIFICATIONS:

Dimensions:	8 m L x 3.5 m W x 2.5 m H, DM Low hit +3				
Combat Weight:	29.6 metric Tons				
Power Plant:	Fusion, 12 megawatt output				
Fuel Req.:	18 liters/hour, 350 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	20/420	10/140	10/140	5/70	5/70
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	840 kph (when flying above NOE level)				
Max. Eff. Rng:	3610 km				
Weapons:	Three 5mm VRF Tri-Barrel LMGs				
Range:	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds ea.				
Crew:	2 - Driver, Commander				
Defense:	5k pwr Radio Jammer, ECM/EW, Point Defense, NBC, Prismatic Aerosol launchers, one 3-shot APERS dispensers (per side), one front, one rear				
Electronics:	5k pwr Radio, Mk V FCS, L3TV				
Cargo:	1 ton (regular version only)				
Flotation:	No				
Price:	1.66 million cr				

M-747-A	Hunter Package (+340,000 cr and missile cost)



Osprey Missile System
Specifications:

	Anti-Tank	AntiiAircraft	APERS	APERS
Warhead:	AP	HE	HE	CBM
Penetration:	410 mm	350/50/50*	380/50/50*	30x60 m w/ 50mm**
Fuse:	Delayed	Proximity	Impact/Proximity	Proximity
Guidance:	IR-STAFF	STAFF	L3TV	L3TV
Range:	.5 - 10 km	1 - 10 km	1 - 10 km	1 - 10 km
Weight:	300 kg	275 kg	300 kg	325 kg
Price:	5,000 cr	5,500 cr	4,000 cr	7,000 cr

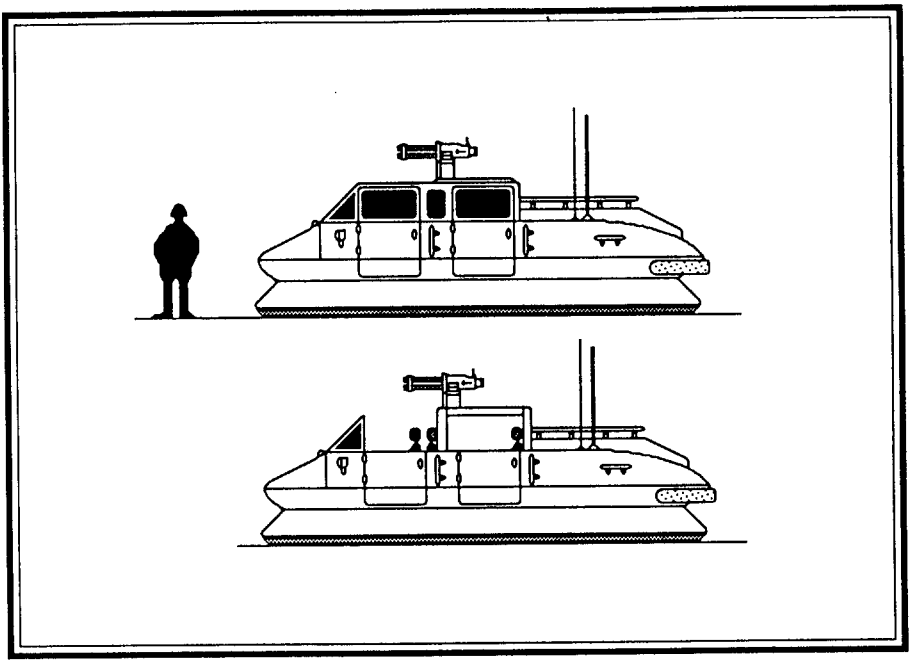
* contact penetration / radius in meters / fragmentation penetration
** area of effect / fragmentation penetration

M-748

The M-748 is an TCV used for C3 in MICV formations. Lightly armored, it can also be used to shuttle up to one squad or a command group around FEBA locations. A basic workhorse, styled after the famed "Jeep" and "HMMV" of the Terran 20th century, this vehicle is also used to fill a wide variety of unconventional needs. Cargo carrier, MEV, recon. are all roles where it has been used. This vehicle is equipped with life support and a RDFSS. A 5 mm VRF, Tri-Barrel LMG is installed in a coupola mount on the vehicles roof.

SPECIFICATIONS:

Dimensions:	8 m L x 3.5 m W x 2 m H, DM Low hit +3				
Combat Weight:	29 metric Tons				
Power Plant:	Fusion, 12 megawatt output				
Fuel Req.:	18 liters/hour, 350 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	5/70	5/70	5/70	5/70	5/70
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	840 kph (when flying above NOE level)				
Max. Eff. Rng:	5,510 km				
Weapons:	One 5 mm VRF, Tri-Barrel LMG				
Range:	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn (up to 16 targets)				
Feed Device:	Linked belt from electric drive (20,000 rnds carries)				
Crew:	1 - Driver (may be part of passengers squad)				
Defense:	5k pwr Radio Jammer , NBC				
Electronics:	5k pwr Radio, IR, L3TV				
Passengers:	10				
Cargo:	2 tons				
Flotation:	No				
Price:	560,000 cr				

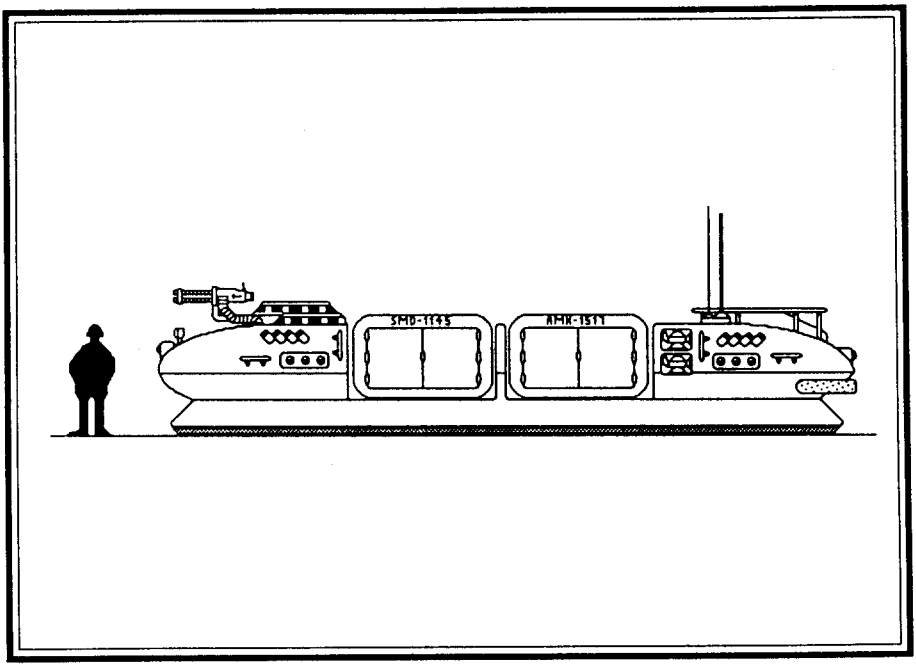


M-757

The M-757 is an AVGP vehicle used to ferry cargo to front line units in FEBA locations. Two specialized cargo containers are loaded with up to 16 cubic meters of materials. Detachable A-Grav couplers are used to load and unload these containers. One VRF Tri-Barrel LMG mounted on the commander's coupola serves as defense. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis and an APERS systems is also fitted. This vehicle is equipped with life support, an RDFSS System, and NBC protection.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 2.25 m H, DM Low hit +3				
Combat Weight:	96 metric Tons (loaded)				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	720 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:	One 5mm VRF Tri-Barrel LMGs				
Range:	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds				
Crew:	3 - Driver, Cargo Handler, Commander				
Defense:	5k pwr Radio Jammer, E/W-ECM, NBC, Prismatic Aerosol launchers, two 3-shot APERS dispensers (sides), 2 front, 2 rear				
Electronics:	5k pwr Radio, IR and L3TVR				
Cargo:	26 tons				
Passengers:	0 (20 with no containers and NOE only)				
Flotation:	No				
Misc.:	6 detachable A-Grav cargo couplers ea w/2.2 ton cap.				
Price:	2.5 million cr				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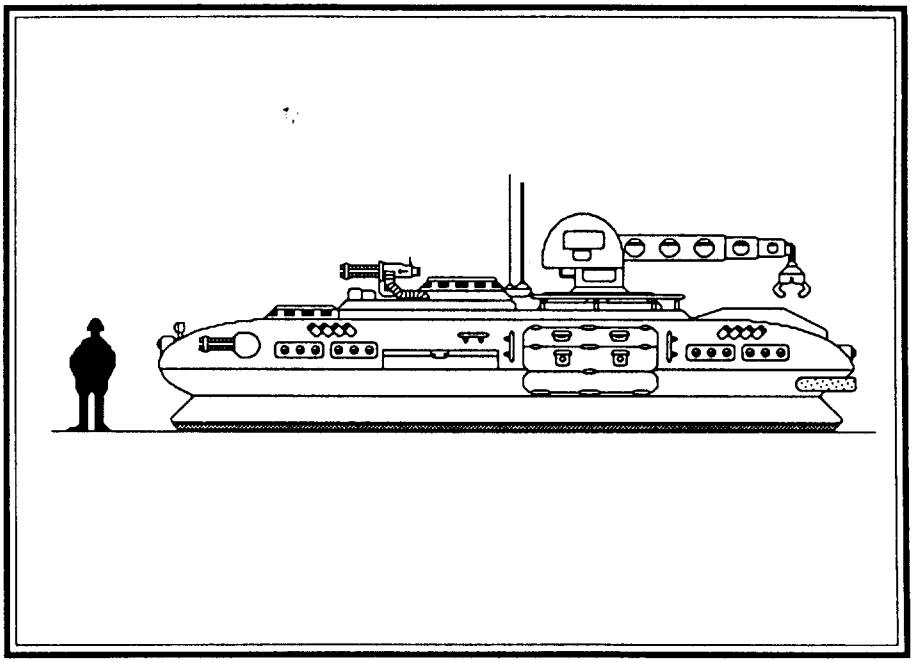
AMK-1511

M-780

The M-780 is an armored CEV used make battlefield repairs to damaged or disabled vehicles. A heavy lift crane can be used to exchange power plants in downed vehicles. A full compliment of spare parts is carried as is a reserve 240 liter fuel tank. This vehicle is able to attach an RPV unit to "drive" disabled vehicles out of the FEBA as long as their power plant and A-Grav units are undamaged. One VRF Tri-Barrel LMG mounted on the commander's coupola and 2 chassis mounted VRF Tri-Barrel LMGs serve as defense. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis and an APERS systems is also fitted. Weapons ports for small arms are fitted in the side hatches. This vehicle is equipped with life support and an RDFSS system.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 3.9 m H, DM Low hit +3, high hit +1				
Combat Weight:	61 metric Tons				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried (240 L reserve tank)				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	1590 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:	Three 5mm VRF Tri-Barrel LMGs				
Range:	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds				
Crew:	6 - Driver, Gunner, 3 Engineers, Commander				
Defense:	5k pwr Radio Jammer, E/W-ECM, NBC, Point Defense, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS w/Point Defense, L3TV & IR				
Cargo:	4 tons (tools and common spare parts for A-Grav vehicles)				
Passengers:	0				
Flotation:	No				
Price:	1.22 million cr				

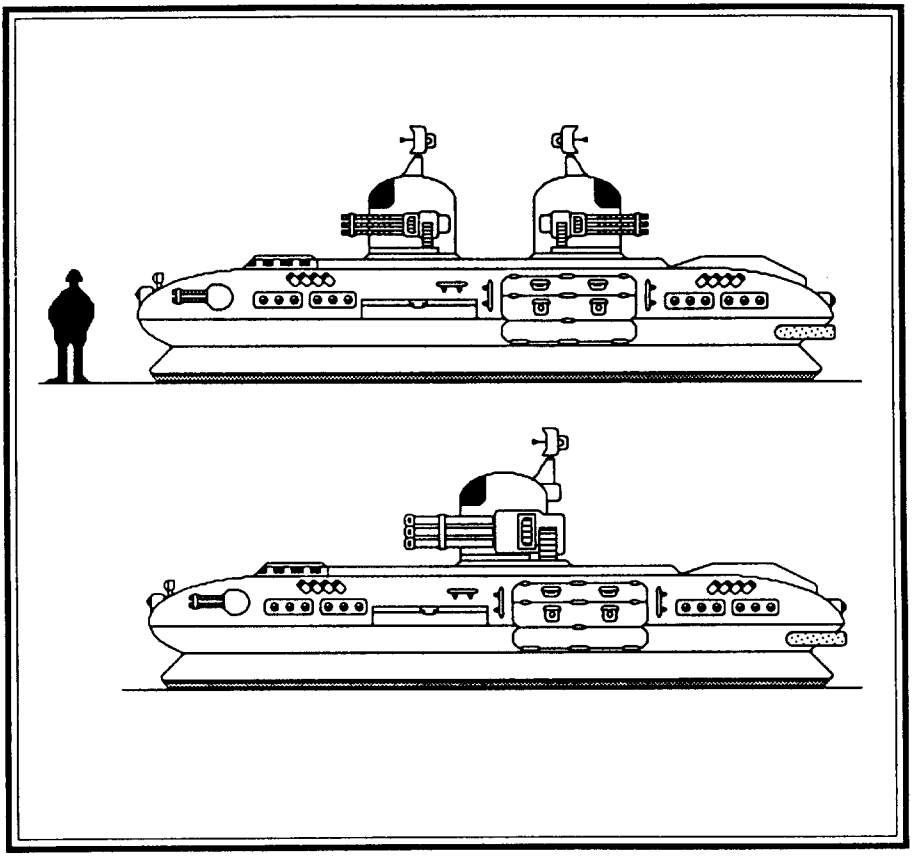


M-785

The M-785 is a quad equipped medium air defense platform in the ADA class of vehicles. It carries 2 independent turrets mounting twin, 8 barreled, 12.7mm RFCs used primarily for point defense protection against incoming enemy missiles or low flying aircraft. Two chassis mounted 5mm VRF Tri-Barrel LMGs serve as close-in defense when the turrets are occupied. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis. This vehicle is equipped with life support and a Rapid Deploy Fire Suppression System. This vehicle has also been used in static defensive position with great success, due to its excellent hull down configuration and high rate of fire. A single turret version mounting a single 40 mm 8 barrel cannon can also be configured.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 4.25 m H, DM Low hit +3, high hit +1				
Combat Weight:	89 metric Tons				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
	Turret: 10/140	10/140	10/140	10/140	
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	8400 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:(main)	Four 8-barrel 12.7mm RFCs (2 per turret) or One 40mm RFC				
(Aux)	Two 5mm VRF Tri-Barrel LMGs				
Range: (Main)	By type, see oposite				
(aux):	Effective 1.5 m +8, Long 3.0 m +6, Extreme 4.5 m +3				
Fire Rate: (aux)	750 rounds / turn / gun (up to 16 targets per turret)				
Feed Device:	Linked belt from electric drive, 20,000 rounds, ea.				
Crew:	3 or 4 - Driver, 2 Gunners, Commander/EW Officer				
Defense:	5k pwr Radio Jammer,ECM/EW, Point Defense, NBC, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS w/Point Defense, L3TV & IR				
Passengers:	0				
Flotation:	No				
Price:	3.98 million cr				



12.7 mm 8 Barrel RFC:

Range:	Effective 2.5 m +8, Long 4.0 m +6, Extreme 5.5 m +3
Fire Rate:	750 rounds / turn / gun (up to 32 targets / turret)
Feed Device:	Linked belt from electric drive, 12,500 rounds, ea.
Penetration:	24 mm (36 w/ DPU heads)

40mm 8 Barrel RFC:

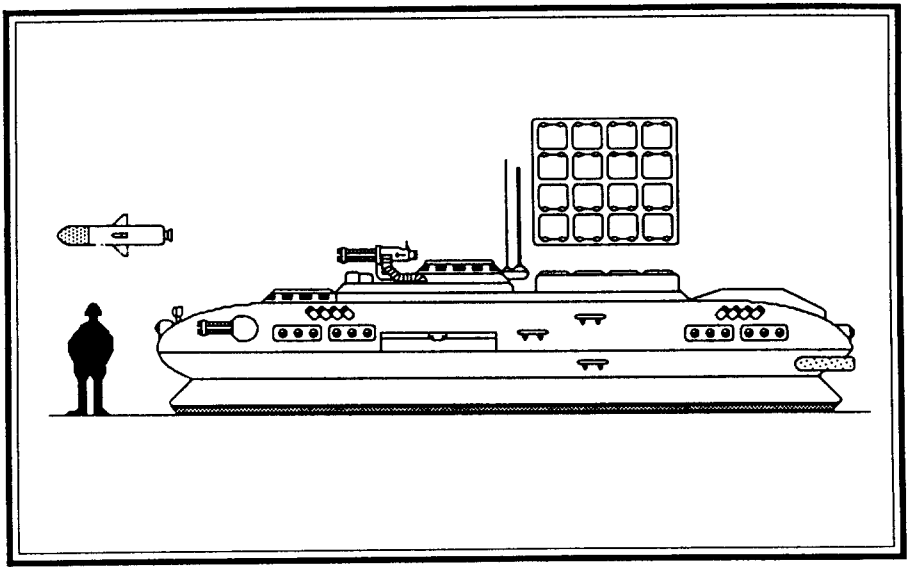
Range:	Effective 4.5 m +8, Long 9.0 m +6, Extreme 18.5 m +3
Fire Rate:	750 rounds / turn (up to 16 targets)
Feed Device:	Linked belt from electric drive, 9,000 rounds
Penetration:	80 mm (92 mm w/DPU heads)

M-786

The M-786 is a SPL/MRS platform used in either the ARMAD role or as a SPAW. in support of ground forces. A unique feature of this vehicle is the 16 chamber verticle launch system located behind the commanders coupola. The Target Acquisition system is capable of tracking 10 different air targets and engaging those 5 that pose the greatest threat simultaniously. For ground roles it can use several warhead types from tank killers to cluster munitions against infantry. When attacking ground targets it can launch from one to all of its load at once. Two chassis mounted and one coupola mounted VRF Tri-Barrel LMGs provide close-in defense. An APERS defense systems, smoke dischargers and firing ports on the side hatches are installed. This vehicle is equipped with life support and a RDFSS System. Replacement missiles are normally carried in an M-745 AASV. When carrying a mixed load of ground and air missiles, one turn must be spent to adjust tracking/targeting equipment when switching from one environment to another (ground to air or vice versa)during wich the tracking system is "blind". Reloading takes 5 minutes per chamber. These vehicles may operate independently or in batteries.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 2.5 m H, DM Low hit +3				
Combat Weight:	90 metric Tons				
Power Plant:	Fusion, 12 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/360	20/420	10/140	10/140
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	720 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:	Three 5mm VRF Tri-Barrel LMGs				
Range: (aux)	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:(aux)	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds, ea.				
Crew:	3 - Driver, ECM/EW Officer, Commander				
Defense:	5k pwr Radio Jammer, ECM/EW, Point Defense, NBC, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS, L3TV, IFF, Map Box				
Passengers:	0				
Cargo:	2 tons				
Flotation:	No				
Price:	3 million cr (plus cost of missiles)				



Osprey Missile System Specifications:

	Anti-Tank	AntiAircraft	APERS	APERS
Warhead:	AP	HE	HE	CBM
Penetration:	410 mm	350/50/50*	380/50/50*	30x60 m w/ 50mm
Fuse:	Delayed	Proximity	Impact/Proximity	Proximity
Guidance:	IR-STAFF	STAFF	L3TV	L3TV
Range:	.5 - 10 km	1 - 10 km	1 - 10 km	1 - 10 km
Weight:	300 kg	275 kg	300 kg	325 kg
Price:	5,000 cr	5,500 cr	4,000 cr	7,000 cr

* contact penetration / radius in meters / fragmentation penetration

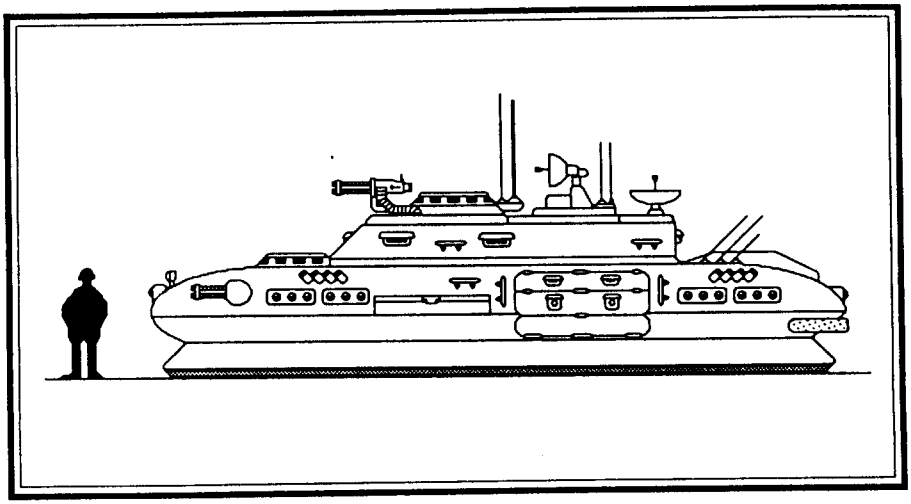
When the missiles with STAFF guidance are fired, they establish a target lock from the operator after which the missile will seek its target and the operator can switch to another target. Models with L3TV group together by salvo and follow the lead missile under the control of the operator. If this missile is knocked down, control automatically switches to the next nearest missile. Just prior to impact, the missile spread out to optimum separation to allow maximum target area saturation.

M-789

The M-789 is a modified APC used as a mobile C3 and BCC platform. It carries a variety of tactical command, control and communications equipment for use from Battalion down to Company or Battery level. Two chassis mounted 5mm VRF Tri-Barrel LMGs and one VRF Tri-Barrel LMG on the commander's coupola serve as armament. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis. This vehicle is equipped with life support and an RDFSS System. An APERS system and firing ports for small arms mounted in the side hatches are also installed.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 4 m H, DM Low hit +3, high hit +1				
Combat Weight:	90 metric Tons				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	720 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:	Three 5mm VRF Tri-Barrel LMGs				
Range:	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Linked belt from electric drive, 20,000 rounds, ea.				
Crew:	3 - Driver, Gunner, Commander				
Defense:	5k pwr Radio Jammer, ECM/EW, NBC, Point Defense, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS w/Point Defense, L3TV & IR CBTSS, RAFTAC, RD, Map Box & Battle Computer, TIS, VDU's				
Passengers:	Up to 5 Command Staff				
Cargo:	0				
Flotation:	No				
Price:	3.5 million cr				

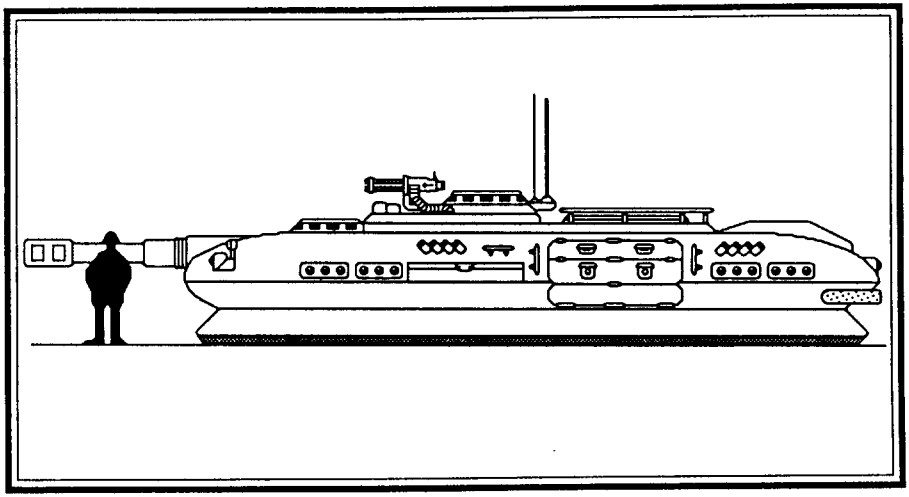


M-796

The M-796 is specialized AFV in the SPAW class, used in static defensive positions. It has the advantage of being able to rapidly shift positions due to its A-Grav propulsion and maintain a very low profile due to its weaponry. It is armed with the Mk VII 120 mm smooth-bore, hypervelocity, stabilzed, Mass Driver Gun. This gun is mounted in a semi-fixed chassis mount. It can traverse +/- 30° and elevate or depress +/- 30°. One VRF Tri-Barrel LMG on the commander's coupola serves as secondary defense. Defensive prismatic aerosol can be generated from 16 "smoke launchers" on the chassis and an APERS systems and firing ports for small arms in the side hatches are also fitted. This vehicle is equipped with life support and a Rapid Deploy Fire Suppression System.

SPECIFICATIONS:

Dimensions:	12 m L x 4.8 m W x 2.5 m H, DM Low hit +3				
Combat Weight:	92 metric Tons				
Power Plant:	Fusion, 31.5 megawatt output				
Fuel Req.:	47 liters/hour, 400 liters carried				
Armor:	Chassis Front	Sides	Rear	Deck	Belly
Actual/Rated mm	50/1050	30/630	20/420	10/140	10/140
Ground Pressure:	N/A				
Pwr. to Wt. Ratio:	N/A				
Max.Road Speed:	190 kph				
Nape of the Earth Speed:	190 kph				
Max. Speed:	720 kph (when flying above NOE level)				
Max. Eff. Rng:	1,615 km				
Weapons:	120mm smooth bore Hypervelocity MD gun				
(aux.)	Three 5mm VRF -Tri-arrel LMGs				
Range: (main)	Effective 5.25 km (+2), Long 10.5 km (+1), Extreme 21 km				
(aux.)	Effective 150 m +8, Long 300 m +6, Extreme 450 m +3				
Fire Rate:(main)	2 rounds / turn				
(aux)	750 rounds / turn / gun (up to 16 targets / gun)				
Feed Device:	Autoloader from 45 Round magazine, add'l 30 rnds carried				
(aux.)	Linked belt from electric drive, 20,000 rounds, ea.				
Crew:	3 - Driver, Gunner, Commander				
Defense:	5k pwr Radio Jammer,ECM/EW, NBC, Point Defense, Prismatic Aerosol launchers, four 3-shot APERS dispensers (per side), 2 front, 2 rear				
Electronics:	5k pwr Radio, Mk V FCS w/Point Defense, L3TV & IR				
Passengers:	0				
Flotation:	No				
Price:	3.75 million cr				



120 mm Ammunition Specifications:

Shell Type	Penetration / Radius/ Frag pent.	Cost (cr)
HE	250 mm 40 m/40 mm	1500
KEAP	460 mm	3250
APFSDS	700 mm	3500
Flechette	200 m danger space (6d 6) +6 to hit	7300

Explanation of Terms

AGLS, FCS, MRLS, TOGS...?! Arggg! you say. What is all this *@#%?! I didn't buy this guide to learn government speak. Actually, once you start to use these abbreviations, you'll be surprised how fast they stick. Let us explain how they work.

The Fire Control System (FCS) is the package of controls and sensors that allow the gunner to identify and engage targets. Within this system are Optical (L3TV), Infra-Red (TOGS) and Laser (LTFCS) sighting sub-systems.

The weapons in this guide are also stabilized (FCE).This allows for "fire on the fly" or firing while moving with no penalty.

All Direct fire guns are equipped with a Mk. IV FCS. It contains the following Sensor/Computer sub-systems: ATTS, CSS, LTFCS w/LTD, MTI, TADS/TES, TGTS & TOGS.

Should the main power fail, the manual secondary armament can be employed, but propulsion would be impossible. If the vehicle is too high, more than 2 times its height, it will flip upside down and fall to earth. (hope you have a parachute)

Opposite is a list of what these "techspeak" terms can do for you in games terms.

OFFENSIVE

AGLS +1 to hit coordinates fed by the BCC.

AIFS Computer Link to BCC or can function independently for fire support only.

ARETS Allow gun to fire based on laser designator from other vehicle and use their bonus. *(Tank A spots and Tank B fires)*

ATTS Works with TADS to identify targets as hostile or friendly and then cues the Targeting computer.

CSS Coordinates L3TV, TOGS and Laser sighting subsystems to give gunner the best target solution.

LTFCS Interprets and integrates sighting from other laser. Works with ARETS.

MTI Allows fire at a moving target with no penalty.

TGTS Allow stationary target bonus (+1/turn) against a moving target.

TOGS Sighting sub-system used when Optical system fails to obtain a target lock.

DEFENSIVE

APERS Flechette charge with 15 meter danger space (6D6).

ECM -1 to opponents attempt to target vehicle by radio or radar.

EW If opponent fails to lock because of ECM, EW attempts to redirect missles to nearest enemy target (normal role to hit nearest enemy in range).

NBC No effect to crew inside vehicle from Nuclear fallout, biological or chemical contaminates as long as vehicle stays sealed.

Prismatic
Aerosol Anti Laser/Thermal/Optical screen, good for 2 turns (works both ways though, you can't see out either).

RDFSS Gives +1 to crews survival roll in case of internal fire or explosion (still damaged by fragmentation).

TLS Senses incoming targeting lasers and automatically deploys smoke.

Glossary of Terms

AASV	Armored Ammunition Supply Vehicle
ACV	Armored Cavalry Vehicle
ADMP	Air Defense Missile Platform
AFSV	Armored Fire Support Vehicle
AFV	Armored Fighting Vehicle
AGLS	Automatic Gun Laying System (provides targeting from location in map box)
AIFS	Advanced Indirect Fire System
AIFV	Armored Infantry Fighting Vehicle
AP	Armored Piercing
APC	Armored Personnel Carrier
APDS	Armor Piercing, Discarding Sabot
APERS	Anti-Personnel
APFSDS	Armor Piercing, Fin Stabilized, Discarding Sabot
APHE	Armor Piercing, High Explosive
ARETS	Armor Remote Target System (provides targeting from external sighting source)
ARMAD	Armored & Mechanized Unit Air Defense
ARSV	Armored Recon/Scout Vehicle
ARV	Armored Recovery Vehicle
ATTS	Automatic Tank Target System
AVGP	Armored Vehicle, General Purpose
BCC	Battery Control Center (arty. command vehicle)
CAWS	Cannon Artillery Weapons System (arty. fire control for direct fire mode)
CBM	Cluster Bomblet Munition
CBTSS	Counterbattery Targeting Solution System
CEV	Combat Engineering Vehicle
CLGP	Cannon Launched, Guided Projectile
CSI	Computer Synthisized Image
CSS	Computer Sighting System
CVR (W)	Combat Recon Vehicle (Wheeled)
C3	Command, Control & Communications
DPU	Depleted Uranium (extreamly dense material used for warheads to increase penetration)
ECM	Electronic Counter Measures
EPAWS	Enhanced Self Propelled Artillery Weapons System (primariy indirect fire control)
EW	Electionic Warfare
FACE	Field Artillery Computer Equipment
FAE	Fuel Air Explosive
FCE	Fire Control Equipment (stabilization gear)
FCS	Fire Control System
FEBA	Forward Edge of Battle Area (the front lines)
GLCBM	Ground Launched Continental Balistic Missile
GLCM	Ground Launched Cruise Missile
HE	High Explosive
HEAT	High Explosive, Anti-Tank

HEI	High Explosive, Incindiary
HESH	High Explosive, Squash Head (mushrooms on impact, causes spalling inside tank)
ICM	Improved Conventional Munitions
IFV	Infantry Fighting Vehicle
IR	Infra Red (detects variations in heat signitures)
k	1,000
km	1,000 meters
KEAP	Kinetic Energy, Armor Piercing
KEAPER	Kinetic Energy, Armore Piercing, Extended Range
LAAV	Light Armored Assault Vehicle
LADS	Light Air Defense System
L3 TV	Low Light Level TeleVision
LMG	Light Machine Gun
LTFCS	Laser Tank Fire Control System, (allows main gun to sight from laser)
LTD	Laser Target Designator (paints laser target for main gun)
LVH	Low Velocity Howitzer
MASH	Mobile Army Surgical Hospital
MEV	Medical Evacuation Vehicle
MICV	Mechanized Infantry Combat Vehicle
MRS	Multiple Rocket System (includes missile equipped systems)
MTI	Moving Taget Indicator (allows tracking of moving targets)
NBC	Nuclear, Biological, Chemical (protective system includes overpressurization & shielding)
PODVADS	Point Defense, Vulcan Air Defense System
PDM	Planetary Defense Missile
RAP	Rocket Assisted Projectile
RAFTAC	Radar For Field Tactical Artillery Fire Control
RDF	Radio Direction Finder (locates radio transmission for artty. fire)
RFC	Rapid Fire Cannon
SAPI	Semi Armor Piercing, Incendiary (for light armored targets)
SP	Self Propelled
SPAAG	Self Propelled Anti-Aircraft Gun
SPAW	Self Propelled Artillery Weapon
SPH	Self Propelled Howitzer
SPL	Self Propelled Launcher
STAFF	Smart Target Activated, Fire and Forget
TCV	Tactical Control Vehicle
TES	Target Engagement System (coordinates all targeting subsystems allowing for fireing of weapons)
TGTS	Tank Gunnery Tracking System (works with MTI to keep gun on moving target)
TIS	Thermal Imaging System (infra-red observation)
TOGS	Thermal Observation & Gunnery System (IR option for guns)
VDU	Video Display Unit (combined with L3TV)
WP	White Phospherous, also called "Willy Pete"

Other guides planned in this series will include:

RM-90-01	Air Cushioned
RM-90-02	Rotary and Fixed Wing Aircraft
RM-90-03	Tracked Vehicles
RM-90-04	Wheeled Vehicles
RM-90-06	Waterborne Vehicles
RM-90-07	Orbital Assault & Landing Vehicles
RM-90-08	Exotic Vehicles
RM-90-09	Infantry Weapons

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