

MICRO ARMOUR DEVASTATION

Fast Play Wargame Rules For WW2 Onwards



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Being a set of rules for micro scale wargames

1.0 Introduction

Micro Armour Devastation (M.A.D.) is a set of fast play rules for land & air combat from WW2 onwards. The air rules can be played separately or combined with the ground combat.

2.0 Game Equipment

Apart from the obvious miniatures, terrain and paper the only things you will need to play M.A.D are a pair of D10's, a D12 and a tape measure

3.0 General Notes

Scale - These rules are intended for use with 1/300th (or 285th) scale models and the ground scale is assumed to be 1mm to 1 metre.

Basing – No set base size is required as measuring is from vehicle to vehicle. However 30mm x 30mm bases allows for scenic detailing and can also be used for smaller scale miniatures containing entire groups.

Realism - These rules are certainly not the most realistic armoured combat rules in existence but hell we think that they're quick, easy and fun to play. If you don't like something change it.

Flying Things - These rules integrate with a set of WW2 aircraft rules that are also available..

Sci-fi - The basic rules tables have been added to this document.

4.0 Definitions

Turn - Refers to one complete activation of all units on both sides.

Element - Refers to one tank, artillery piece or infantry squad etc.

Unit - Refers to a number of elements activated as a group, for instance a platoon or troop.

Activation - Each side activates units in an alternating fashion, when a unit is activated it may move and fire in any combination. Some unit type may not move and fire.

Built up Areas - Buildings are generally placed onto card markers, which denote gardens and other surrounding features of buildings. These built up areas have the same effects as woods.

Line of sight (LOS) - Refers to a valid unblocked line between 2 points on the area of play. Should the LOS be debatable use a 50/50 dice roll to determine if it's valid. Buildings and hills etc. block LOS, as do more than 50mm of wood or built up areas. For simplicity the LOS's from elements on hills are not blocked completely by tall terrain features instead they cast a 50mm shadow.

5.0 Sequence of Play

6.0 Main Rules

Initiative - Each side rolls a D10 and the highest rolling side wins the initiative.

Activation - The side winning initiative activates a unit and then the side losing initiative activates a unit. This sequence alternates until all units have been activated. If the sides are numerically unbalanced the side with the greater number of units moves the excess all at the end of the game turn.

Movement Speeds - All elements have a speed rating, each speed rating equates to a distance which the element may move in one activation. No account is taken of turning etc.

Bad Terrain - Any unit except infantry which crosses bad terrain pays double distance for the distance travelled. Bad terrain includes woods, built up areas, marshes etc., such features should be agreed upon before the game starts. Infantry generally ignore bad terrain penalties. Units may not pass through obviously impassable terrain I.E. Infantry can not cross deep rivers unaided etc.

Linear Obstacles - These obstacles include walls and hedges etc. Infantry may cross freely. Totally tracked vehicles may cross paying a 50mm penalty. All other ground vehicle types may not cross such obstacles.

Troop Carriers - When an infantry element mounts/dismounts from a vehicle the vehicle must travel at slow speed. These actions are always carried out prior to the vehicle movement. Infantry mounted in a vehicle that is destroyed have a 50/50 chance of also being destroyed.

Roads - Elements, which spend their entire movement on a surfaced road, may add 50m to their movement for that move.

Unit Coherency - All elements of a unit must be within line-of-sight of one other unit member after all elements have moved.

Direct Fire -

General - When a unit is activated it may fire upon any unit with which it has a valid LOS. Targets should be nominated for each firing element before any ranges are measured or any dice rolled.

Cover - When two opposing elements with a LOS across a wall etc. are firing the element closest to the linear obstacle gains the cover bonus, if any. A unit within a wood or built up area has cover if less than 50mm of said terrain lies along the LOS, if more than 50mm the LOS is blocked. Only one cover modifier may be claimed.

Fixed & Limited Traverse Weapons -

Are marked in the main vehicle listings with "*" this indicates the vehicle may only move or fire but not both during it's activation. A turn on the spot does not count as a move. This also includes infantry carried support weapons.

Multiple Weapons - Vehicles may have more than one weapon system, all of which may be fired in one turn. Restrictions on movement & fire apply as normal. E.G. only the turreted gun of a Grant may be fired on the move. All vehicles are assumed to be armed with a machine gun for anti-infantry fire. A vehicle may fire its main weapon or its machine gun in the same phase but not both.

To Hit Roll - An element rolls 2D10 when firing, each dice greater than or equal to the required target number counts as one success. A double success does full damage, A single success does half damage and no success indicates a complete miss. A double success of the same number on each dice is a critical which does double damage. Target numbers, modifiers and base damage values can be found in the table's section.

AA Fire - The only weapons, which may be fired against aircraft, are systems designated as AA systems and Small Arms fire. The latter having a maximum range of 100m. A fixed penalty is

imposed for all firing at aircraft instead of any angle of attack penalty.

Infantry Damage - As infantry are dispersed targets damage sustained from weapons other than small arms and flame throwers is worked out as normal and then halved (Round up). This includes attacks from air units as well as ground units. Infantry in a destroyed vehicle have a 50/50 chance of also being destroyed.

Opportunity Fire - An element may choose to place an opportunity fire marker instead of doing anything else. This allows the element to spot/fire at targets of opportunity. This fire occurs at any point of the targets visible movement. However should the target be positioning to shoot then firing is considered simultaneous.

BANG! - An element is destroyed once it has been hit and reduced to less than 1 hit point. Optionally a destroyed vehicle may be assumed to create smoke. A smoke template is then used to check any LOS that runs close by.

A/T Grenades - An infantry unit equipped with anti tank grenades may use them if in base to base with a target vehicle. An unmodified 1D10 roll is made instead of the normal to hit roll. If a 10 is rolled (zero on the dice) the attack fails and the attacking infantry are destroyed. Otherwise the target takes 5 times the number rolled in damage (5 to 45 damage).

Fortifications - These include bunkers & trenches etc. Occupants may claim a substantial immunity from being hit at range. Fortifications are never really considered destroyed even if the occupants are killed. Position & Fire arcs of fortifications should be determined before play commences. If attacking infantry is in contact with a fortification the target within may not claim the cover modifier. Infantry may claim ordinary buildings as fortifications.

Reduction of Fortifications - Optionally the cover value of a fortification may be reduced by 1 for each hit of OVER 20 damage it sustains. Treat as firing at stationary vehicle. The cover value may not be reduced below 1.

Wire Entanglements - Small arms infantry must use an entire movement to cross a wire obstacle. Fully tracked vehicles may cross unhindered; all other vehicles may not cross. Tracked vehicles crossing will breach entanglements where they cross. Infantry engineers may spend an entire movement to create a breach.

Anti-Tank Obstacles - All infantry may cross, fully tracked vehicles may spend an entire move to cross (without firing), and all other ground units may not cross. Anti Tank obstacles may be breached/bridged by a suitable specialist vehicle or infantry engineers spending an entire movement to do so.

Mine Fields - Are marked on the field as roughly 40mm square blocks. Any element crossing is subject to an Infantry Support Weapons attack roll with a target of 6+. Infantry engineers and mine clearing vehicles use a movement to remove 1 or 2 mine field tiles respectively and are not subject to the attack roll if doing so.

Artillery Fire - Each unit of weapons must be entirely of the same type and gets one attack per turn. The template for this attack is calculated from the radius in mm on the artillery table multiplied by the number of guns/tubes in the unit. The radius may not be more than 100mm per unit. Each attack will deviate 2D10 x 10mm in a random direction. If the firer or an AOP observes the target point, the deviation is reduced by 50mm. An AOP unit may not observe & move or fire.

Hit Roll - Any element within the area of effect is attacked based on its situation, the target numbers can be found on the artillery to hit numbers table. Damage is

inflicted based on the artillery type and the level of success.

Correction - Each subsequent observed attack may not deviate by more than the prior attacks deviation distance. The artillery firing loses any correction advantage as soon as it switches target points.

Pre-programmed fire - In certain scenario's it may be sensible allow pre-registered target points and pre-programmed artillery attacks to pre-registered target points. This could be simulated by having no deviation and certain areas hit on certain turns in accordance with a written schedule.

Off Table Artillery - Off board artillery is activated as any other unit.

For Example:

A unit of 4 x 81mm mortars is activated; the controlling player nominates a target point for the attack. The attack is directed by an artillery observer so the deviation is 2D10 x 10mm minus 50mm for the observer. The direction of deviation is determined using a D12 roll. The centre point of attack has now been determined, the radius of the attack is 60mm (15mm x 4 weapons firing). A tank in some woods is within the radius so the attacking player rolls 2D10 against a target of 9. A double success is scored yielding the full damage of 20 points.

7.0 Optional Rules

Hidden Movement - All units have a marker allocated to them, there may also be an agreed number of dummy markers deployed. If a unit fires or is spotted, its marker is replaced with the models representing its composition.

Spotting - Any unit when activated can attempt spotting rolls for multiple lines of sight up to the distance of its spotting allowance. Infantry and specialist recon elements have an allowance of 2000m. All other types have an allowance of 1000m. Obviously units composed of multiple types may choose the most favourable element to make the spotting rolls. Only 1 element per unit may make spotting rolls during a single activation. Note - aircraft always counts as moving. Dummy units may be used to make spotting rolls.

Firing - An unidentified group may not be fired on. Unrevealed markers are never effected by artillery.

Coherency - For this marker system to work units must obviously stick fairly tightly together. Infantry platoons with vehicles, as members of the platoon are particularly problematic. In the case of mounting/dismounting unidentified infantry just make a note of the units status on their record sheet.

Actions - It can be seen that the actions of an enemy marker (it's speed & spotting allowance) may well give clues as to it's type, remember that the unit does not have to use it's full capabilities. Note - Aircraft and off board artillery are always identified.

8.0 Points System Calculation

SpeedPoints + HitPoints + WeaponPoints + ExtraPoints = Overall Points Value
Vehicle weapons that can't be used on the move (fixed/limited traverse mounts) have a 10% discount on the weapons points value (round up resulting value).
Currently the only extra equipment item is anti-tank grenades.

TABLES & DIAGRAMS

Movement Speeds				
Type	Distance	Mph	Kph	Pts.
Foot	75mm	N/A	N/A	08
Cavalry	150mm	N/A	N/A	15
Slow	100mm	00 to 20	00 to 30	10
Medium	150mm	21 to 30	31 to 45	15
Fast	200mm	31+	46+	20

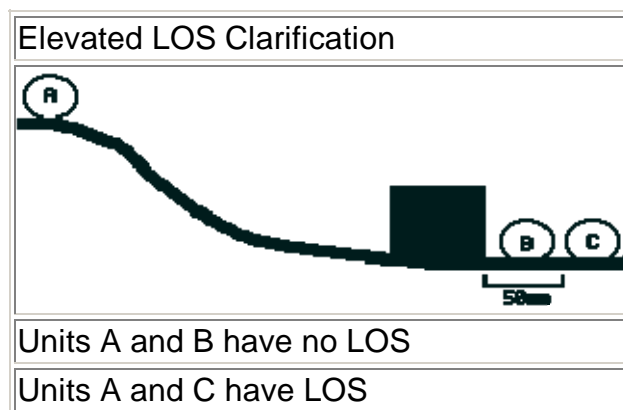
Weapon to Hit Numbers										
Weapon	100m	200m	350m	500m	750m	1000m	1500m	2000m	Damage	Pts.
A/T Grenades	*	-	-	-	-	-	-	-	Variable	12
Small Arms	3	5	8	-	-	-	-	-	5	10
Infantry Support	4	5	6	8	-	-	-	-	10/05	11
Flame Throwers	2	8	-	-	-	-	-	-	16	26
Class A Cannon	3	3	4	6	7	8	9	10	40/20	76
Class B Cannon	3	3	4	6	7	8	9	-	34/17	65
Class C Cannon	3	3	4	7	8	9	10	-	28/14	50
Class D Cannon	3	3	4	7	8	9	-	-	22/11	36
Class E Cannon	3	3	4	8	9	10	-	-	16/08	25
Spotting	1	3	4	5	6	7	8	9	-	-
* See special rule										
Note - 2nd Damage value is vs infantry										

To Hit Modifiers	
Situation	Modifier
Non small arms/flame thrower attack on infantry	+2
Firing at non-infantry target in normal cover *	+1
Firing at infantry target in normal cover *	+2
Firing on the move #	+2
Firing on airborne targets	+2
Opportunity fire	+1
Firing at target in fortification/trench *	+4
* Modifiers not cumulative & not counted if target & firer in base to base contact	
# Ignore if large static target - buildings etc	

Spotting Modifiers	
Situation	Modifier
Target Moving	-2
Target in cover *	+2
Target in fortification/trench *	+4
Spotter Moving	+3
* Modifiers not cumulative & Not counted if target & firer in base to base contact	

Artillery Types			
Calibre	Radius	Damage	Pts.
60mm or less	10mm	10/05	25
61mm to 120mm	15mm	20/10	75
121mm or larger	20mm	30/15	150
Note - 2nd Damage value is vs infantry			

Artillery to Hit Numbers	
Target Situation	To Hit No.
Vehicle in open	7+
Vehicle in cover	9+
Vehicle in prepared position	10
Infantry in open	6+
Infantry in cover	9+
Infantry in prepared position	10



Example Unit Record Sheet

Units Record Sheet				
ID	Description	Hit Points	Armament	Movement
Tank Unit				
GT01	Tiger 1	28	Cannon B	Medium
GT02	Tiger 1	28	Cannon B	Medium
Infantry Unit				
IC01	Infantry Command	05	SA + Spotter	Foot
IS01	Infantry Support	05	SA + Support*	Foot
IF01	Infantry (+ATG)	05	SA + A/T Gren.	Foot
GTR01	Truck	05	SA	Medium
* May not move and fire				

MARKERS & COUNTERS

Example Hidden Unit Markers (50mm x 50mm)



Example Movement/Opportunity Fire Markers (20mm x 20mm)



ARMY LISTS

GENERIC KIT

Type	Hit Points	Armament	Mobility	Pts.
Infantry	5	Small Arms	Foot	23
Infantry (Support)	5	Small Arms	Foot	34
		Inf.Support *	Foot	
Truck etc.	5	Small Arms	Medium	30
Jeep/Bike etc.	5	Small Arms	Fast	35
* May not be fired on the move				

**Note all vehicles are armed with an anti-infantry machine gun
if not specifically listed**

FRENCH

Type	Hit Points	Armament	Mobility	Pts.
Char B1-bis	22	Cannon Class D	Slow	91
		Cannon Class E*		
Renault R35	16	Cannon Class E	Medium	56
Somua S35	16	Cannon Class E	Medium	56
Hotchkiss H39/H40	16	Cannon Class E	Medium	56
Panhard 178	10	Cannon Class E	Fast	55
Lorraine APC	10	Small Arms	Medium	35
* May not be fired on the move				

GERMAN

Type	Hit Points	Armament	Mobility	Pts.
Pz I	16	Inf. Support	Medium	42
Pz II D to J	16	Cannon Class E	Medium	56
Pz II L (Luchs)	16	Cannon Class E	Fast	61
Pz III D	16	Cannon Class E	Medium	56
Pz III F to G	16	Cannon Class D	Medium	67
Pz III H	22	Cannon Class D	Medium	73
Pz III J to M	22	Cannon Class C	Medium	87
Pz III N	22	Cannon Class D	Medium	73
Stug III A-D	22	Cannon Class E*	Medium	60
Stug III F	28	Cannon Class C*	Medium	88
Stug III G	28	Cannon Class B*	Medium	102
Pz IV C to D	16	Cannon Class E	Medium	56
Pz IV E to F1	22	Cannon Class E	Medium	62
Pz IV F2 to J	22	Cannon Class B	Medium	102
Stug IV	28	Cannon Class B*	Medium	102
JagdPz IV (L48)	34	Cannon Class B*	Medium	108
JagdPz IV (L70)	34	Cannon Class A*	Medium	118
Pz IV Brumbar	34	Cannon Class B*	Medium	108
Panther A to G	34	Cannon Class A	Medium	125
JagdPanther	40	Cannon Class A*	Medium	124
Tiger I	28	Cannon Class B	Medium	108
Tiger II	40	Cannon Class A	Medium	131
JagdTiger	40	Cannon Class A*	Medium	124
Marder III	16	Cannon Class B*	Medium	90
Hetzer	28	Cannon Class B*	Medium	102
Elefant	40	Cannon Class A*	Slow	119
Wesp	16	Cannon Class C*	Medium	76
Nashorn	10	Cannon Class A*	Medium	94
Sdkfz 250/1 (APC)	10	Inf. Support	Fast	41
Sdkfz 250/10 (APC)	10	Cannon Class E*	Fast	53
Sdkfz 234/2	16	Cannon Class C	Fast	86
FlakPz IV Wirbelwind	16	AA (4 x 20mm)*	Medium	#
FlakPz IV Möbelwagen	16	AA (1 x 37mm)*	Medium	#
* May not be fired on the move				
# Will be specified once aircraft rules complete				

GREAT BRITAIN

Type	Hit Points	Armament	Mobility	Pts.
Churchill Mk3 & Mk4	28	Cannon Class B	Slow	103
Churchill Mk5	28	Cannon Class C	Slow	88
Churchill Mk6 & MK7	34	Cannon Class D	Slow	80
Churchill Mk7 Crocodile	34	Cannon Class D	Slow	104
		Flame Thrower *		
Churchill Mk8	34	Cannon Class C	Slow	94
Sherman Firefly	22	Cannon Class A	Medium	113
Sherman M4 A1	22	Cannon Class D	Medium	73
Challenger	22	Cannon Class A	Slow	108
Comet	28	Cannon Class B	Fast	113
Cromwell Mk4	22	Cannon Class D	Fast	78
Cromwell Mk5	22	Cannon Class C	Fast	92
Cromwell Mk7	28	Cannon Class D	Fast	84
Cromwell Mk8	28	Cannon Class C	Fast	98
Cruiser A9	16	Cannon Class D	Medium	67
Cruiser A10	16	Cannon Class D	Slow	62
Matilda MkII	22	Cannon Class D	Slow	68
Valentine Mk1 to Mk8	22	Cannon Class D	Slow	68
Valentine Mk9 onwards	22	Cannon Class B	Slow	97
Crusader Mk1 & Mk2	16	Cannon Class D	Medium	67
Crusader Mk3	16	Cannon Class B	Medium	96
Archer	16	Cannon Class A*	Slow	95
M3 Grant	22	Cannon Class D	Medium	106
		Cannon Class D*		
Humber	10	Inf. Support	Fast	41
Daimler	10	Cannon Class D	Fast	66
AEC	16	Cannon Class D	Fast	72
Humber Scout	10	Inf. Support*	Fast	40
Universal Carrier	10	Inf. Support*	Fast	40
Bofors & Truck	5	AA(1 x 40mm)*	Medium	#
* May not be fired on the move				
# Will be specified once aircraft rules complete				

JAPAN

Type	Hit Points	Armament	Mobility	Pts.
Te-Ke Type 97 Tankette	10	Cannon Class D	Medium	61
Chi-Ha Type 97 (47mm)	16	Cannon Class C	Medium	81
Ho-Ni Type 1	10	Cannon Class B*	Medium	84
Ho-Ha (APC)	10	Small Arms	Medium	36
Ho-Ki (APC)	10	Small Arms	Medium	36
* May not be fired on the move				

RUSSIAN

Type	Hit Points	Armament	Mobility	Pts.
BA64 Armoured Car	10	Inf. Support *	Fast	40
BT7	10	Cannon Class D	Fast	66
JS2	34	Cannon Class A	Medium	125
JSU122	34	Cannon Class A*	Medium	118
JSU152	34	Cannon Class B*	Medium	108
KV1 m42	28	Cannon Class D	Slow	74
KV2	28	Cannon Class B	Slow	103
KV85	28	Cannon Class B	Medium	108
SU76	16	Cannon Class D*	Medium	64
SU85	28	Cannon Class B*	Medium	102
SU100	28	Cannon Class B*	Medium	102
T28E	22	Cannon Class E	Medium	62
T34/76	22	Cannon Class D	Fast	78
T34/85	28	Cannon Class B	Fast	113
T60	16	Cannon Class E	Medium	56
* May not be fired on the move				

UNITED STATES

Type	Hit Points	Armament	Mobility	Pts.
Stuart M5A1	22	Cannon Class D	Fast	78
Chaffee M24	22	Cannon Class D	Fast	78
Lee M3	22	Cannon Class D	Medium	106
		Cannon Class D*		
Sherman M4A1	22	Cannon Class D	Medium	73
Sherman M4A3	28	Cannon Class D	Medium	79
Sherman M4A3 E8	28	Cannon Class B	Medium	108
Pershing M26	34	Cannon Class B	Medium	114
Hellcat GMC M18	16	Cannon Class B	Fast	101
Wolverine GMC M10	22	Cannon Class B	Medium	102
HMC M8	22	Cannon Class D*	Medium	70
M8 Armoured Car	10	Cannon Class D	Fast	66
M20 Utility Car	10	Inf. Support	Fast	41
M16 ½ Track (AA)	10	AA (4 x HMG)*	Fast	#
½ Track	10	Inf. Support*	Fast	40
* May not be fired on the move				
# Will be specified once aircraft rules complete				

FUTURISTIC VARIANT RULES

These are just a set of tables with various weapons etc for you to create your own setting.

Hi-Tech Movement Speeds	
Type	Distance
Foot (Normal)	75mm
Foot (Powered)	100mm
Cavalry	150mm
Slow	150mm
Medium	200mm
Fast	250mm
VTOL	300mm

Hi-Tech Movement	
Infantry/Tracked & Wheeled movement rules un-changed.	
Walkers	Walking AFV's, ignore all terrain penalties except for exceptional pre game agreed features. Easy to hit in open and generally less armoured than their more conventional counterparts. They may also be submerged in deep water.
Grav	Slow ground hugging flying AFV's, ignore all terrain as per walkers but may not enter terrain such as deep water & woods but may just skim over it. I.E. can traverse it but can't claim cover. These count as ground vehicles for firing purposes. Optionally a grav unit may halt over a wood and spend an entire movement just to sink down into the cover below. They may move off as normal.
VTOL	Helicopters and other full hover capable aircraft. Ignore all terrain penalties. May never claim cover but may use terrain to block LOS. If blocked LOS wanted the controlling player must state this during his move. They may not use hidden movement, as they are always visible. VTOL's can claim the +2 modifier for being an airbourne target, even for mine attacks. Artillery attacks do not effect VTOLS. All ground weapons may be used against them.

Hi-Tech Base to Hit Numbers											
Weapon	100m	200m	350m	500m	750m	1000m	1500m	2000m	Damage	Excluded Types	Pts
A/T Grenades *	-	-	-	-	-	-	-	-	Variable	(Inf/PA Only)	012
Small Arms	3	5	7	9	-	-	-	-	10		029
Infantry Support	3	5	6	7	9	-	-	-	18/08		024
Flame Throwers	2	6	-	-	-	-	-	-	18		031
Kinetic Kill Class:A	3	3	4	5	6	7	8	9	58/29	VTOL, PA, INF	127
Kinetic Kill Class:B	3	3	4	6	7	8	9	10	50/25	VTOL, PA, INF	095
Kinetic Kill Class:C	3	3	4	6	7	8	9	-	42/21	VTOL, PA, INF	079
Kinetic Kill Class:D	3	3	4	7	8	9	10	-	34/17	PA, INF	058
Kinetic Kill Class:E	3	3	4	7	8	9	-	-	26/13	PA, INF	042
Kinetic Kill Class:F	3	3	4	8	9	10	-	-	18/09	INF	028
Plasma/Particle Class:A	3	4	5	7	9	-	-	-	74/37	VTOL, PA, INF	101
Plasma/Particle Class:B	3	4	5	8	10	-	-	-	66/33	VTOL, PA, INF	083
Laser Class:A	2	2	3	4	5	6	7	8	34/17	VTOL, PA, INF	089
Laser Class:B	2	2	3	4	5	6	7	8	26/13	PA, INF	068
Guided Missile Class:A	8	6	4	5	6	6	8	8	66/33	PA, INF	117
Guided Missile Class:B	7	5	4	5	6	7	8	9	42/21	PA, INF	080
Guided Missile Class:C	5	4	5	6	7	8	10	-	26/13		043
Spotting	1	2	3	4	5	6	7	8	-		
* See special rule											
Note - 2nd Damage value is vs infantry (includes power armour)											

Hi-Tech To Hit Modifiers	
Situation	Modifier
Non small arms/flame attack on infantry #	+2
Firing at target in normal cover *	+1
Firing on the move (Other than missile fire) +	+1
Firing on airborne (includes VTOL) targets	+2
Firing on walker in open	-1
Opportunity fire	+1
Firing at target in fortification/trench *	+4
Non missile Fire at ECM/Stealth protected target **	+1
Missile Fire at ECM/Stealth/ADF protected target **	+2
Laser/Plasma/Particle fire at Shielded Target **	+2
# Infantry includes power armour infantry	
+ Ignore if large static target - buildings etc	
* Single "*" Modifiers not cumulative & ignored if target & firer in base to base contact	
** Double "*" Modifiers not cumulative	

Hi-tech Spotting Modifiers	
Situation	Modifier
Target Moving	-2
Target in cover *	+2
Target in fortification/trench *	+4
Spotter Moving	+3
* Modifiers not cumulative & ignored if target & firer in base to base contact	

Hi-Tech Artillery Types			
Calibre	Radius	Damage	Pts
60mm or less (light)	10mm	20/10	050
61mm to 120mm (Medium)	15mm	30/15	113
121mm or larger (Heavy)	20mm	40/20	200
Note - 2nd Damage value is vs infantry (includes power armour)			

Hi-Tech Extra Equipment (Bracketed figures are points values)	
Shielding	[30] Gives carrying vehicle partial immunity from lasers, particle and plasma weapons. May not be fitted with stealth.
Stealth	[30] Gives carrying vehicle partial immunity from enemy targeting.
ECM	[100] Carrying vehicle generates a 100mm radius zone of partial immunity to targeting. May not be fitted with stealth.
ADF	[100] Carrying vehicle generates a 150mm radius zone of partial immunity from missile attacks.
Mines	Hi-Tech mine fields are assumed to be effective against VTOL's and grav vehicles !!!!

Armour Classifications		
Type	Hit Points	Description
Soft targets	05	Un-armoured elements (civilian)
Infantry Armour	08	Advanced body armour & combat clothing
Armour Class H	16	Infantry power armour
Armour Class G	26	(Light Vehicle Armour)
Armour Class F	34	
Armour Class E	42	(Max for VTOL)
Armour Class D	50	(Max for Walker)
Armour Class C	58	(Max for Grav)
Armour Class B	66	
Armour Class A	74	Super Heavy AFV Armour
Armour Class ?	??	Hell the above's only a guideline !!!!

AIRCRAFT RULES

I will refer to the main M.A.D rules as M.A.D tanks to avoid any confusion here. M.A.D Planes actually pre-dates M.A.D Tanks although it has only been finished off recently (for now at least). This being case it can be played as a stand alone air combat game. As with M.A.D Tanks the intention is not ultra realism but a fast fun game. If played as part of M.A.D Tanks see the combined arms games section below. We are still play testing M.A.D Planes so things may well change.

Turn Sequence

1. Decide Initiative of each aircraft
2. Move & fire aircraft in initiative order (Highest initiative moves first)

Initiative

Initiative is decided at the start of a turn, each plane has a D10 rolled for it and adds the crew's skill rating (see below) If using combined arms rules initiative works differently (see end section for combined arms).

Movement Rate

A planes movement is dictated by it's current speed which must be between it's minimum & maximum speed ratings. This current speed value can be altered at the very start of a planes move by anything upto the planes acceleration/deceleration value. In any given turn the plane must move the distance indicated by it's current speed. All speed ratings are assumed to be in millimetres.

Turning

All planes have a turn rate value with a corresponding turn radius template, this is the template that shows the tightest turn radius possible. Multiple turns of different directions are allowed. The actual turn radius is 20mm x the turn rating.

Firing

A plane can only fire at the end point of it's movement activation. An attack roll is made per weapon group as detailed in the aircraft stats. lists. For example a

fighter plane with 2xHMG & 2xMG would make one attack roll for the MG's & one attack for the HMG's. All attack rolls by one crew member must be simultaneous and against the same target.

An attack roll is made on 2D10 against a target number based on the range to target and various modifiers. If both dice equal or exceed the target number then the full damage of the weapon fired is applied to the target. If only one dice succeeds then only half of the weapon damage is applied (rounded up). No success on either dice indicates a complete miss. Double success of the same number indicates a critical hit (Double Damage) and a roll on the critical hit table.

Crew/Pilot Skill Levels (Optional)

The basic skill of a pilot/crew member is 0 in which case no modification to initiative is caused. However to simulate "Aces" etc a skill of 1 or more could be used. The skill level could be increased based on pre-arranged numbers of kills.

Tailing & Tail Gunners

A tailing aircraft has no penalty for firing at the plane it is tailing, This also applies to tail gunners etc. who have no penalty for firing at planes tailing their aircraft.

Bombing

Any plane equipped with bombs may make a bombing run by moving in a straight line for the entire move while crossing the target. A D10 is rolled and the crew skill level is subtracted, this yields the scatter distance in CM, a D12 is then rolled to find the direction of scatter. A template is then placed at this point doing 40 damage to anything under it. Each template represents 550lbs of bombs. For big bomb loads repeat the scatter resolution for a number of templates equal to the bomb load divided by 550lbs (Round to nearest).

Rocket Attacks vs Ground Targets

Rocket attacks (Multiple & Single heavy) may be carried out against ground targets, a target ground element is nominated. A normal to hit roll is made and the following occurs based on the level of success :-

Double Success - Template lands where nominated doing appropriate damage to all units under the template.

Single Success - Template scatters from nominated point as per bombs doing appropriate damage to all units under the template.

No Success - No effect - complete miss or dud rocket(s) etc.

Points Values

Aircraft Points are calculated as follows :

Points = Hit Points + (Top Speed / 10) + Turn Points + Weapons

Combined Arms Changes

Initiative

In the combined arms version of the game each aircraft is treated as a unit moved in the same alternating fashion as any other unit. The initiative roll is therefore not used.

Critical Hits

Critical hits do double damage as normal but do not allow a roll on the critical hit table, this is done in the interest of speeding up combined arms games.

AA Fire

AA guns under 31mm can only engage targets involved in low level ground attacks, fighter bombers etc. Guns over 31mm can engage aircraft at all altitudes, multi-engined bombers etc. Only designated AA units may fire at aircraft, see the tank rules for details.

Aircraft Statistics List	
Statistic	Effects
Minimum speed (Speed)	Minimum move possible while airborne
Maximum speed (Speed)	Maximum move possible while airborne
Acceleration/Deceleration (Acc)	Speed change possible in one turn
Minimum turn (Turn)	Smallest turn template useable
Hit points (HP)	Amount of damage sustainable before being destroyed
Weapons	Obvious i think !!!
Crew/Pilot skill	Initiative & bomb attack roll modifier
Manoeuvre Rating (MRate)	Manoeuvre types possible

Fire Arcs	
Type	Fire Arc
Fixed guns & rockets	50mm corridor
Dorsal & ventral turrets	360°
Limited traverse mounts & turrets	90°

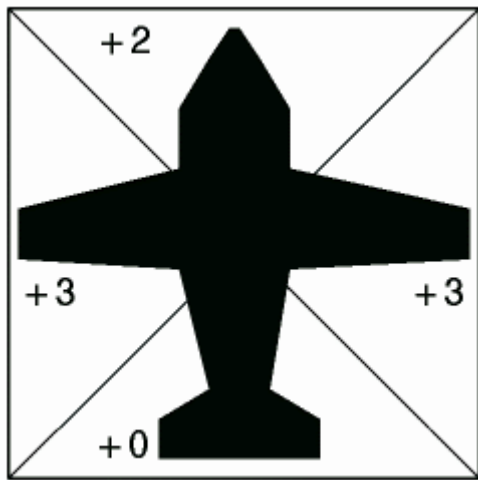
Special Manoeuvres			
Manoeuvre	Move Cost	Table Top Move	Class
Side slip	100mm	100mm move @ 45° forward left or right with no heading change	1
Half loop	200mm	Turn 180° on the spot	2
Loop	300mm	No movement	2
Note: Only one manoeuvre of each class maybe carried out per move.			
A plane may not carry out any manoeuvre which exceeds it's rating.			

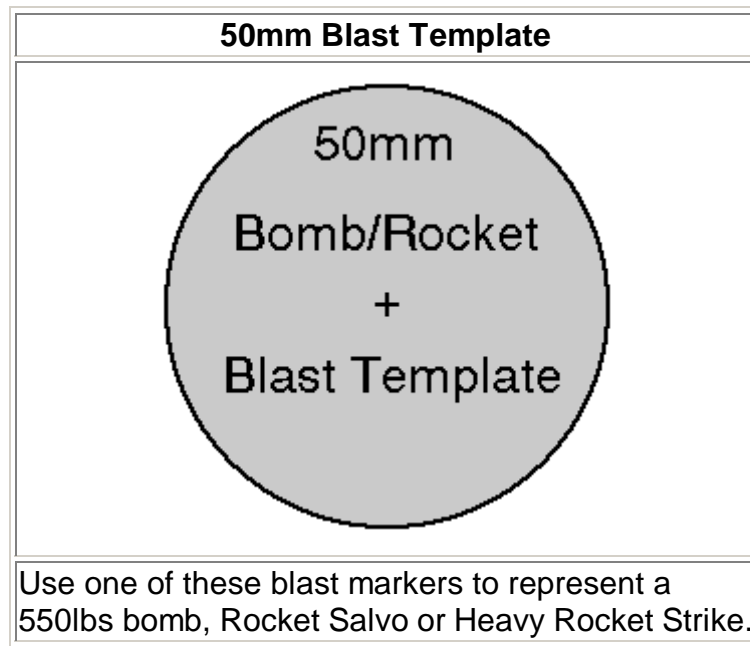
Weapon Statistics								
Aircraft Weapons	100m	200m	350m	500m	750m	1000m	Damage	Points
Machine Gun	2	4	6	-	-	-	2	03
Heavy Machine Gun	4	5	6	7	-	-	3	04
20mm Cannon	4	5	7	7	-	-	6	07
30mm Cannon	4	5	7	7	8	-	12	15
31mm + Cannon	5	5	7	7	8	8	20	26
Multiple Rocket Salvo	4	5	6	8	-	-	40	42
Single Heavy Rocket	-	5	6	7	8	8	50	53
550lbs Bombs	*	-	-	-	-	-	-	20
* See Special Rules for Bomb Attacks								

Air to Air Modifiers	Modifier	Air to Ground Modifiers	Modifier
Non fixed weapon (pivotal & turret etc.)	+1	Firing at ground targets	+1
Side shot (deflection shooting) *	+3	Firing at infantry targets	+1
Head on shot *	+2	Firing at ground target in cover	+1
Class 1 or 2 manoeuvre (target or firer)	+1		
Normal turns totalling 180° or more (target or firer)	+1		
*See Angle of Attack Diagram Below			

Critical Hits	
Roll	Result
1-4	Engine hit: 1st= 50% Speed reduction (speed drops to half at the start of next move) 2nd= Crash
5-7	1D3 Crew Locations hit (dice randomly, cockpit hit results in a crash)
8-10	Plane breaks up

Turn Radius Points Costs			
Turn Radius	Points	Turn Radius	Points
03	32	07	16
04	28	08	12
05	24	09	08
06	20	10	04

Angle Of Attack Modifiers

To calculate modifier find quadrant attacker resides in relative to the target



AIRCRAFT LISTS

Pacific War Aircraft Statistics							
Aircraft	Speed	Acc	Turn	HP	MRate	Weapons & Groupings	Points
Aichi `Val` D3A1	80-260	90	5	16	2	2xMG Fwd 2xMG Rear90	?
						800lbs bombs	
Brewster Buffalo F2-A3	120-310	110	5	16	2	4xHMG Fwd	?
Douglas Devastator TBD1	80-210	70	5	18	1	1xMG Fwd 1xMG Rear90	?
						1000lbs bombs or Torpedo	
Douglas Dauntless SBD3	80-260	90	5	18	2	2xHMG Fwd 2XMG Rear90	?
						1200lbs bombs	
Grumman Avenger TBF1	100-280	100	5	18	1	1xMG Fwd 1xMG Rear90	?
						2xHMG Fwd 1xHMG Rear180	
						2000lbs bombs or Torpedo	
Grumman Wildcat F4F-4	120-320	110	4	16	2	6xHMG Fwd	?
Mitsubishi `Zero` A6-M2	120-320	110	3	14	2	2xMG 2x20mm Cannon Fwd	?
Nakajima `Kate` B5N2	80-230	80	5	16	1	2xMG Fwd 1xMG Rear90	?
						1100lbs bombs or Torpedo	

Battle of Britain Aircraft Statistics							
Aircraft	Speed	Acc	Turn	HP	MRate	Weapons & Groupings	Points
Hurricane 1	120-330	110	3	18	2	4xMG 4xMG Fwd	?
Spitfire 1A	120-360	120	3	16	2	4xMG 4xMG Fwd	?
Spitfire 1B	120-360	120	3	16	2	4xMG 2x20mm Cannon Fwd	?
BF109 E3	120-350	120	4	16	2	2xMG 2x20mm Cannon Fwd	?
BF110 C4	120-340	100	6	22	1	4xMG 2x20mm Cannon Fwd	?
						1xMG Rear90	
						2x550lbs bombs	
HE111 H3	80-260	90	8	30	0	2xMG 1x20mm Cannon Fwd90	?
						1xMG 1xMG Rear90	
						1xMG Left90 1xMG Right90	
						4400lbs bombs	
DO17 Z2	80-230	80	8	25	0	1xMG Fwd90	?
						1xMG 1xMG Rear90	
						1xMG Left90 1xMG Right90	
						2200lbs bombs	
JU88 A1	80-280	100	8	34	0	1xMG Fwd90	?
						1xMG 1xMG Rear90	
						3300lbs bombs	
JU87 B1	80-250	80	5	18	2	2xMG Fwd	?
						1xMG Rear90	
						1100lbs bombs	