ARTILLERY BATTERIES:

ARTILLERY is a general term used here to describe the guns and launches that perform indirect support fire against area rather than 'point' targets. All Artillery elements must be deployed into units like any other ground forces; an Artillery Unit normally being referred to as a BATTERY. Batteries generally consist of from two to four guns or launchers.

The available types of Artillery are:

- RUM (Rocket-Assisted Munitions) MORTARS: High-trajectory multiple-rocket weapons similar to conventional mortars, but using rocket-propelled rounds for extra range and power. May be mounted on vehicles, towed or even man-pushed. RUM Mortars are classified as LIGHT ARTILLERY.
- TUBE ARTILLERY: this covers traditional guns and howitzers (usually with rocket-assisted munitions), plus more advanced types such as Mass Driver Artillery. RUM Fluid Guns and Howitzers are classified as MEDIUM ARTILLERY, while Mass Driver types are HEAVY ARTILLERY (due to their far higher rates of fire, they can deliver more ordnance in a given time).
- MULTIPLE ROCKET LAUNCHERS (MRLS): these are launchers for clusters of Artillery Rockets, which may be fired as a single (for harassing fire) or ripple-fired in salvo for effective area bombardment. Smaller MRLs count as MEDIUM ARTILLERY while larger types are HEAVY ARTILLERY.
- HEAVY ARTILLERY ROCKETS (MARs): single very large rockets with multiple warheads, each rocket having the effect of a full Artillery bombardment. They count as HEAVY ARTILLERY.

LOCATION OF ARTILLERY BATTERIES:

Artillery may either be located on TABLE or OFF TABLE. On TABLE batteries are treated like any other combat units, except that (like other launchers with FIXED MORTAR weapons) they may NOT use the option of moving (before firing); they may fire and then move, which constitutes the 'shoot and scoot' tactic used to foil early-counter-battery fire. In general, the only type of Artillery used on-table will be RUM Mortars; Battery placements are akin to the Combat Grid, however there is nothing to stop other Artillery types from being employed on-table if desired for the scenario requires this.

ALL ARTILLERY, REGARDLESS OF TYPE, IS ASSUMED TO BE SUFFICIENTLY LONG-RANGED THAT IT CAN FIRE ON ANY POINT ON THE TABLE. This includes even Light Artillery (RUM Mortars).
ARTILLERY FIRE MISSIONS:

There are two main types of fire mission that Artillery units may undertake: HARRASSING FIRE and EFFECTIVE FIRE.

HARRASSING FIRE consists of intermittent firing at random intervals, and is designed not to cause casualties but to make the enemy keep their heads down. It is very economical on ammunition, but has a profound psychological effect on the units it is targeted on — they know that the opposition has "sniped" on them, and that at any moment the sporadic shelling could turn into a terrifying "fire for effect." In game terms, the only effects on units in the beaten zone are: they receive on UNDER FIRE marker, and b) they must take a Confidence Test for being under Artillery attack. No chits are drawn for casualties.

The advantage of Harrassing fire for the FIRER is that it does NOT consume any of Artillery ammunition, as the expenditure of rounds is quite low. Harrassing Fire missions are always assumed to be using OPEN SHEAF beaten-zone patterns, the overall size of the zone depending on the number of weapons in the firing battery. Since no casualties are possible (in reality of course there is always SOME chance of a kill, but for game terms it is so unlikely as to be ignored) it does not actually matter what type of rounds the Artillery fire is firing — they are generally assumed to be HEI.

The battery may continue to fire harrassing missions, even when it has no Ammunition markers of any kind left; it is assumed that each gun has a few odd rounds in reserve for such eventualities.

NOTE that Harrassing Fire missions may NOT be carried out by HEAVY ARTILLERY ROCKET (HAR) batteries, they may be used by all other battery types, however.

EFFECTIVE FIRE (where the old gunners' maxim of "don't let it thump it!" comes into play, for an Effective Fire mission, all guns or launchers in the battery will fire continuously at their maximum rate, pouring as much destruction as they can into the beaten zone. Every time that the battery fires an Effective mission as a Combat Action, it expends one Ammunition marker of the relevant type: if it runs out of a particular kind of marker it may no longer fire that kind as an Effective Fire mission until resupplied.

All elements caught in the beaten zone of an Effective Fire mission must draw chits for the effects, as described under ARMY FIREFIGHTER.

Effective Fire missions may use either an OPEN or CONVERGED SHEAF, as the firer wishes.

Effective fire may be carried out by ANY type of Artillery battery, including HEAVY ARTILLERY ROCKETS.

BEATEN ZONES FOR ARTILLERY FIRE:

The area of ground hit by Artillery fire is termed the "BEATEN ZONE," and individual elements caught within that zone are potential targets for the effects of the fire.

The actual size and shape of the Beaten Zone for a particular fire mission depends on two factors: the NUMBER of Artillery elements firing, and whether the mission is firing an OPEN SHEAF or a CONVERGED SHEAF, as explained below.

A. CONVERGED SHEAF mission is where ALL the guns or launchers in the firing Battery target the SAME point-of-impact; this obviously gives a VERY high concentration of fire over a relatively small area, and causes severe casualties.

An OPEN SHEAF firing, on the other hand, is where each gun or launcher adjusts its fire so that the effect of the battery is spread over a much larger Beaten Zone (thus hopefully affecting more individual elements in the zone), but the fire concentration on any one point is obviously less.

For a Converged Sheaf, ONE Impact Marker is placed at the point of aim; the Beaten Zone for the fire mission will be a circle centered on this marker, the diameter of the circle being 4" — thus any element that is within 2" of the Impact marker will be affected by the fire.

For an Open Sheaf, the circle of the Beaten Zone is an elongated ellipse (like a rectangle with curved ends); it is actually two 4" diameter circles joined by a straight area, as shown in the diagram. The area is defined by placing TWO Impact Markers, one at the center of each 4" circle, the distance BETWEEN the two markers depending on the number of individual weapons in the firing Battery; it should be 4" for every extra gun-launcher above the first (so for a two-gun battery the markers would be 4" apart, for 3 guns 8", for 4 guns 12" etc.) The "long" axis of the Beaten Zone may be aligned in either of two ways — it may be PARALLEL to the line of fire (i.e., the direction from the firing battery to the target zone), or may be PERPENDICULAR to it. The Beaten Zone MAY NOT be set at any OTHER angles to the line of fire.

[Note that the Beaten Zone sizes do NOT vary with the type of Artillery firing (Light, Medium or Heavy); these differences are accounted for in the Damage Effects.]

REQUESTING ARTILLERY FIRE:

Artillery Fire Support from a Battery attached to the Combat Group (when the battery is on an off-shoot) may be requested at any time by the following means:

[Diagram of Artillery Beaten Zone examples: The circular zone is the area covered by a CONVERGED SHEAF mission, while the elongated zone is that for an OPEN SHEAF of TWO weapons firing; if THREE guns fired then the two markers would be 8" apart instead of 4", and the FOUR guns if would be 12". The complete shaded area is the Beaten Zone.]

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ARTILLERY

Any UNIT COMMAND element (eg. a Platoon or Troop Commander), or a Specialised Observer Team (an Infantry element or vehicle-mounted observer).

To request fire, the observer or commander must be in clear line-of-sight to the intended target point, and witin maximum Sensor range (180° under normal conditions). Requesting the fire count as the COMBAT ACTION for that ELEMENT, although other elements of the same unit perform other actions.

When the fire is made, the activating player immediately rolls a die: the Die Type is determined according to the element observing for the fire: if it is a Specialist Observer roll a D10; if a Unit Commander then roll a D10 if his Leadership is 11 or 12 for Leader or 2 if 6 for Leadership 1. For OFF-TABLE ARTILLERY, a score of 4 or greater is required for the call for fire to succeed; for OFF-TABLE Artillery the score needed is 5 or more (failure indicates the observer has been unable to get the battery to respond). If the unit, among co-ordinates, the battery is pre-co-ordinated (with other things etc.)

If this die roll is successful, the player immediately places on the table either one or two "IMPACT" markers (like the white counters with the "target reticules") - One to indicate a CONVERGED SHEAF bombardment, or two to mark the zone for an OPEN SHEAF. The marker(s) are placed on the intended target point(s) as described in the section on BEATEN ZONES.

When the marker(s) are placed on the table, the player should also place an Artillery Ammunition counter FACE-DOWN near the impact marker(s). This marker(s) must be being a particular Munition type, though of course the opponent will not know what type it is - until the fire artfully arrives. If the firing player is using just BARRING FIRE, for which no Artillery ammunition marker is expanded, he should use one of the "DUMMY" markers from the counter-sheet so as not to give his intentions away to his opponent.

ARTILLERY FIRE RESOLUTION:

When an observing element successfully calls for Artillery fire and places the appropriate impact marker(s) on the desired point of aim, the fire does NOT arrive immediately. The player who "decides" the activation of the "observing" unit, then play switches to his opponent's turn. The opposing player has made an activation, the player who called in the Artillery MUST then use his turn to activate his Artillery Battery and resolve the Fire Mission.

[Should the player, for any reason, decide he must try to CANCEL the fire mission then he must make the same test as he had to for requesting it.] If the opponent's turn is over, the Artillery Battery is treated as if it had activated, its Command Marker is inverted and it can do nothing more that Game Turn. Obviously, this sequence gives the opposing player a chance, if he wishes, to activate any unit on danger from the Artillery mission (provided of course that it has not already used its activation that turn) and possibly move it to safety before the fire arrives. This is actually quite justifiable - it is very hard to target Artillery accurately onto a mobile target unit (largely due to the delay between calling for fire and its arrival) and if the threat of the impending attack forces the player to (try) pull a unit back out of position, then the Artillery has done some of its job anyway - by making your opponent read in the way YOU want him to (hopefully to the distress of his own plans) Consider, if you will, that placing the impact marker represents either the target designation of the target area or the arrival of the first few ranging shots, both of which are detectable by the unit under attack and will give them at least a few warning of the impending danger. When they (and the player controlling them) CANNOT know if the actual bombardment is going to be Effective or just annoying fire, and what munitions are coming over - a few smoke shells, or a tactical Munition?

EXAMPLE of Artillery Fire:

All vehicles in unit A are caught within the Beaten Zone (shaded area) so all are subject to attack. Only element B1 of unit B is within the Zone, so B1 is attacked, ALL of unit B is, however, considered to be "Under Fire" and will receive a marker indicating this if B1 is damaged or destroyed by the fire. Note that if it was an INFANTRY unit, it would receive an UNDER FIRE marker whether casualties were caused or not.

ARTILLERY FIRE DAMAGE EFFECTS:

All elements, vehicle and infantry, that are caught within the Beaten Zone of a fire mission are potentially affected by it. With BARRING FIRE, there is no effect other than placing UNDER FIRE markers on the units (a UNIT is deemed to be affected IF ANY of its elements are caught in the Beaten Zone) and requiring a Confidence Test, Smoke and DMR (Mines) missions also do not have immediate effects other than those specified in the relevant rules, and BalaBashem munitions have special effects that again are described in their particular sections.

The majority of EFFECTIVE fire missions will be using HEF or SAKK munitions for these, all elements in the Beaten Zone draw a number of hits as specified below.

Each LIGHT Artillery unit element firing is worth 1 OH per VEHICLE target element, or 2 hits per INFANTRY target element.

Each MEDIUM Artillery element causes 2 hits to be drawn per VEHICLE or 3 hits per INFANTRY element.

Each HEAVY Artillery unit element is worth 3 hits per VEHICLE or 4 hits per INFANTRY element. If the mission is an OPEN SHEAF, then each element in the Beaten Zone is only drawn once, as each part of the Zone is only being bombarded by ONE Artillery piece. If it is a CONVERGED SHEAF, each element draws as MANY TIMES AS THERE ARE WEAPONS in the firing line.

Example: If a Battery of three Light Artillery pieces is firing an OPEN SHEAF, every VEHICLE caught by the fire draws ONE hit for damage effects, and every INFANTRY element draws TWO hits. If the same Battery fired a CONVERGED SHEAF, EACH VEHICLE in the (smaller) Zone would draw THREE individual hits, and each INFANTRY ELEMENT THREE PAIRS of hits, to represent it being hit by the concentrated fire of the three guns.

Example: How did the Converged Sheaf mission, each target element would draw the hit or 3 individual hits (or per), and count results of each draw accordingly - it would not draw 3 (or 6) hits at once and total them all up.
AMMUNITION SUPPLY AND RESUPPLY:

Ammunition markers may be "bought" for each Artillery Battery when organizing your forces, using the points costs given in the POINTS VALUE LISTING (P.52).

Note that the actual cost per marker is PER ELEMENT in the Battery, so a three-gun Battery will pay 3 x the given points per marker.

A Battery may have up to THREE ammunition markers representing the rounds carried in the Gun vehicles themselves; additional ammunition markers must be carried in units of transport vehicles accompanying the Battery; these transport vehicles need not be represented by models for Off-Table batteries, but for On-Table Artillery their actual models should be used (the transport vehicles will be organized into separate units if on-table, and transferring their ammunition loads to the Battery will count as their Combat Action). The Artillery Battery itself may neither move nor fire in the turn it resupplies with ammunition.

One "load" of cargo for a transport vehicle requires a capacity of 4; this load (in ammunition terms) represents a "one gun share" of one ammo marker - in other words, a three-gun Battery requires 12 capacity points (three "loads") to carry ONE ammo marker for the whole Battery.

For Off-table batteries, simply stack any additional ammunition markers purchased near the Battery. Up to three of these may be "loaded" on board the Gun vehicles at any time, but doing so uses the Activation of the Battery - thus they may neither move nor fire in the turn they resupply with ammunition.

Note that the system for ammunition resupply is somewhat abstract and simplified, in particular it does not take account of the different types of Artillery (Light, Medium or Heavy). If you REALLY want to play a Quartersmaster rather than a General, then by all means add some real detail into the system!

COUNTER-BATTERY FIRE:

Whenever an Artillery Battery fires from a particular location, it is possible that an opposing Artillery unit equipped with COUNTER-BATTERY capability will manage to locate the Battery firing, with the result:

- If a Battery is equipped with a Counter-Battery Radar (CBR) vehicle, then that Battery may be Activated at any time (subject to normal rules) to perform a Counter-Battery mission in place of a normal Fire Mission.
- Counter-Battery fire may only be attempted against an enemy Artillery unit that has already performed a Fire Mission (of any type) in the current game Turn. It requires no observer or target designation step, as the CBR element with the Battery is closing on the fire. The player must roll a d6, according to the Quality of the CBR system: d6 for BASC, d6 for ENHANCED and D10 for SUPERIOR. If he scores 6 or more, the opposing Battery has been located and he may immediately place an impact marker (or markers) on it, followed by the resolution of whatever type of fire the mission he chooses to use - the mission arrives immediately, being resolved as the Battery’s activation for that turn.
- Counter-Battery fire may be employed against On or Off-table batteries, and in both cases is resolved exactly as for a normal Artillery mission.

Note: if a battery moves directly after firing ("Shoot and Scoot"), then NO Counter-Battery fire may be attempted against it, if, on the other hand, it fires from the same position (without moving) for two or more activations, then INCREASE by one the die type used for the Counter-Battery roll.

ORTILERY:

"Ortilery" is the term used for ORBITAL ARTILLERY: fire-support from spacecraft, satellites or gün-platforms in orbit. Such fire is accurate enough to be used for bombardment during the battle, however, there is some potential for error and it’s use in very close proximity to friendly troops is not recommended.

In most respects, Ortilery fire is treated in just the same way as ordinary Artillery - it is simply another form of off-table Battery (but with a cost/velocity table close to Battery fire). The major difference is that, after the placement of the Impact markers on the designated aim point the fire CBR deve is from this intended target.

When the fire mission arrives (i.e., the orbiting "Battery" is activated), roll a D12 - using the "clockface method", this determines which direction the fire will deviate in. Now roll a D6 and a D10 together: if the score on the D6 is Higher than (or equal to) the D10, then the fire does not deviate at all - it hits the intended aim point. If the D10 roll is higher than the D6, then the Difference between the two rolls is the number of inches the fire deviates; move the lowest marker(s) the required number of inches in the relevant direction before resuming the fire mission.

If desired, players may use this or a similar "deviator" system for normal Artillery fire as well; for Ortilery - generally, however, we assume that normal Artillery fire is sufficiently accurate not to worry too much about fire deviation.

Other aspects of Ortilery support may be considered if players wish, that are outside the scope of this book to cover fully - these can include limited availability of Ortilery on the ship/satellite moves round its orbit (perhaps available only on every fourth game Turn or so), other types of Ortilery fire such as Particle beams or very big Laser/beam so on. There are a whole lot of things you can add in if you so desire - hopefully we can cover some of these in future publications.

The Damage Hit Validities are as shown in the table on P.29: elements get advantages for being Dog-In, but Not for just being in Soft Cover. [VEHICLES when Dog-In are IMMUNE to HEF fire, while Infantry dog in are immune to MOKK effects.]

The points required to damage/destroy a vehicle are as per Direct Fire (as based on the vehicle's Armour rating), while the points to kill Infantry elements are the same as for Infantry Firefights - i.e. 3 for Militia, 4 for Line and 5 for Powered. All "special" damage hits are valid if drawn against VEHICLES, but are ignored when drawn for Infantry.
AEROSPACE CRAFT ORGANISATION:

Unlike VTOLs, which operate as a specialist form of "ground" vehicle and are grouped into normal units of several vehicles, AEROSPACE CRAFT (in particular Ground-Attack fighters, the type most commonly used over the battlefield) will often operate as SINGLE CRAFT, or at most in "flights" of two craft. Each individual Aircraft is treated as a "unit" in its own right, even if two or more are operating together. The aircraft has a Command Marker (which functions slightly differently from ground unit markers, as explained below), but does not require a Confidence Level marker.

The Command Marker given to an Aerospace Craft denotes the "quality" of the pilot and crew by its COLOUR, or for normal units - GREEN for poorly trained or inexperienced "Turkeys", BLUE for the average combat pilot, and ORANGE for the red hotshotaviour-off-the-universe jet jockeys!

The NUMBER on the Command Marker does not represent leadership, but more the "merit" and morale of the pilot (which is NOT the same thing as his training and experience level; it is a measure of how likely he is to, say, break off an attack run if faced with a lot of AA fire - or will he plough through it and get that target at all costs?

When an Aerospace craft has to take a Reaction test, the number/vcolour of the Command marker is used exactly as for other units.

AEROSPACE UNIT ACTIVATION SEQUENCE:

A player may ACTIVATE an Aerospace craft (or a group of two or more, operating together) at any point in the Game Turn, in the same way that he would Activate a ground unit. Because Aerospace units ARE VERY fast-moving in relation to ground vehicles, they do not follow the normal movement rules, instead, their Activation takes place the moment they cross the battlefield, delaying their presence to the target area and then leaving the table in the same turn.

When activating such a unit, follow this sequence:

1. Place the Aerospace Craft at the point at which they are to enter the table, and move them along the desired "flight path" until they reach the point at which they are to attack their targets; during this movement, they may be fired on by any opposing Air Defence elements, which have ACTIVE Air Defence Sensors and are in range of the flight path.

2. Once over their target, the Aerospace craft may be fired on by any "local" defensive systems of the units they are attacking; if they survive this fire, the Aerospace craft may then make their struts (either DIRECT FIRE of missiles, guns etc., or delivering Area Effect ordnance).

3. Following their attacks, the craft are moved along their flight path until they exit the table edge (during this movement, they may be fired on by any "active Air Defence elements that did not choose to fire during the crafts' approach to their targets).

4. In the case of Aerospace units that wish to LAND on-table, the actual landing takes place instead of the attacks in step (i) if "local" defensive systems may, if in range, attack the craft as they are landing.

This completes the ACTIVATION of the Aerospace Unit.

AIR VEHICLE WEAPON EFFECTS:

Both VTOLs and Aerospace craft can carry Direct Fire weapons and Guided Missiles; Aerospace craft can also carry Dead Fall Ordinance loads. Most Air attacks are resolved using the same mechanisms as ground combat, with the following limitations:

1. All air vehicles may only fire Direct Fire weapons at targets straight ahead of the aircraft, ie. actually on the line of flight. Except for chin turret mounts on VTOLs which may fire through a 180° forward arc. Range bands are the same as for ground fired equivalents.

2. Missiles may be fired at targets within the normal FIXED MOUNT fire arc, ie. a 30° forward arc. Range is the same as for ground-fired missiles. (Note that each Guided Missile system fitted to an Air vehicle is a complete Launcher and supply of missiles (as used on ground vehicles), and NOT just a single missile on a pylon - thus each system can launch one missile per dive, and the missile supply is assumed sufficient for the game duration.)

3. DFO attacks may be aimed at a target point between 4° and 8° ahead of the aircraft, along the line of flight. Such attacks have a Beaten Zone 4° in diameter, the same as a Converged Shell Artillery attack. One impact point marker is used to indicate the centre of the Zone.

An air vehicle may make ONE attack per activation, so on one pass an Aerospace craft may either use direct fire or missiles against a single element, or make one DFO drop on a single target zone.

DEADFALL ORDANCE ATTACK RESOLUTION:

When a DFO attack is delivered by an Aerospace craft, the effect is resolved in basically the same way as an Artillery mission. The Beaten Zone is a 4° diameter circle, so all elements within 2° of the impact marker are potential targets.

When attacking with HEF or M Knox ordnance (the usual options), each ORDINANCE DROP drops two DFOs per target element; thus if an aircraft expects two Loads on one pass, each element in the Zone draws a total of FOUR DFOs.

The validities of Damage Chips, and their effects, are exactly as for Artillery attacks of the relevant type.

The aircraft employs one Ordnance marker per Load dropped. (Note that, if required, Aerospace craft may be used to deliver NUKET or BIOCHEM ordnance; in these cases the Zones and effects are exactly as for Artillery-delivered attacks using these munitions.)
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AIR DEFENCE:

AIR DEFENCE Fire is the method used to attack Aerospace units, and VTOL units in High Mode (VTOLs in Low Mode can be fired on by ordinary ground units using Direct Fire).

AIR DEFENCE consists of "Local" Air Defence weapons (Infantry elements and vehicles carry Anti-Air weapons), and the "Zone" Air Defence cover provided by AR EA DEFENCE SYSTEM (ADS) vehicles.

The Air Defence fire described here refers mainly to Aerospace craft (particularly ground attack missions; VTOLs in High Mode are fired at using basically the same system, but with the following provisions:

1) VTOLs test Reaction to Air Defence Fire as complex units, as opposed to the individual units used for Aerospace craft.

2) VTOLs units that get an "abort" result do not have to leave the table: instead they lose a Confidence Level and have to drop to Low Mode. They are unable to return to High Mode while still within range and sight of any Active ADS vehicle.

[Note that vehicle-mounted Point Defence Systems may NOT engage aircraft - they are purely anti-missile weapons.]

LOCAL Air Defence (LAD) may only be used by a particular unit against air attacks directed at that unit itself (as in: self-defence); Zone Air Defence (ZAD) may fire on any air vehicle within range and line of sight, regardless of who is being attacked.

Air Defence Fire is made in a similar way to OPPORTUNITY FIRE, in that it is done during the activation of the attacking Aircraft rather than that of the unit under attack. Unlike normal Opportunity Fire, Air Defence Fire does NOT cause the firing unit to lose its own activation chance. It may also be fired on by a unit that has already been activated.

Local Air Defence Fire has a maximum range of 12". It may engage any air vehicle attacking the unit, provided that the aircraft is within 12" of the LAD element firing (thus an aircraft attacking with long-range weapons such as Missiles may well be able to fire from a stand-off position where it is out of reach of the LAD fire, but one making a D10 strike roll must be within LAD range to launch its weapons).

Zone Air Defence Fire has a maximum range of 15", and this range may be measured to ANY point on the aircraft's flight path across the table (or to the current position if a VTOL unit).

As soon as a player announces that he is making Zone Air Defence fire against an opponent's aircraft, the player with the aircraft must immediately make a Reaction test for the pilot. This test is made in the normal way, and uses a Threat level of 1 if the pilot passes the test, he may continue his attack; if he fails he must break off the attack run and immediately exit the table. If an aircraft aborts in this way, the Air Defence Fire against it is not resolved - this pilot has detected a "kick-off" from an anti-aircraft system and decided it would be healthier elsewhere!

[An aircraft that aborts its attack may, if desired, return to try again during the next game turn.]

If the pilot presses on with the attack, any Air Defence fire against his aircraft must be resolved before he launches his weapons. (Note that each ADS vehicle may only fire on ONE aircraft of a GROUP of craft operating together, but, for the Reaction test mentioned above, ALL aircraft in the group must test even if just one is being fired on.)

Each Zone Air Defence vehicle resolves its attack SEPARATELY, in the following way:

The ADS player rolls a die, based on the Quality of the ADS: a D6 for BASIC ADS, D6 for ENHANCED and D10 for SUPERIOR. The Aircraft player rolls a die based on his aircraft's Command marker - a D6 for a GREEN marker, D8 for a BLUE, D10 for ORANGE, modified UP one die type for a grade 1 pilot and DOWN one for a grade 3. Thus an "ORANGE" 1st pilot uses a D12, but a "GREEN" 1st uses a D4.

If the Aircraft is equipped with ECM, it gets a SECONDARY die roll based on the quality of ECM used (BASIC + D6, ENHANCED = D8, SUPERIOR = D10). This function in the same way as the Secondary die in direct fire, i.e. the HIGHER of the two die scores is used.

If the ADS roll EQUALS the Aircraft's roll, then the pilot must abort his attack as above, but the aircraft is undamaged - it may return next game turn.

If the ADS roll EXCEEDS the Aircraft's roll, then the Aircraft is hit and possibly damaged: Draw 2 Damage Chips for a basic ADS, 3 for Enhanced or 4 for Superior: All chips are valid except Special damage chips, which are ignored.

If the total of damage points on the chips drawn is LESS THAN the ARMOUR RATING of the aircraft, the craft is undamaged but must still abort for that turn.

If the total damage EQUALS the Armour Rating, the aircraft is DAMAGED and must abort in this case it is NOT able to make further passes in the game, but must "limp" back to base.

If the total of damage points EXCEEDS the Armour Rating (which, as already noted, actually represents its overall "survivability"), then the aircraft is SHOT DOWN - it crashes and is destroyed.

An aircraft that survives any Zone Air Defence fire and still continues its attack must then run the gantlet of any LOCAL AIR DEFENCE weapons used by the TARGET UNIT. No Reaction test is needed in this case - simply go straight to the fire-resolution below.

The aircraft player makes a roll exactly as for ZAD above (including a Secondary roll for ECM if applicable). The LAD player makes a roll based on the NUMBER of LAD elements in the unit under attack - for one element with a LAD weapon, he rolls a D6; the Die Type increases by one for every additional LAD weapon fired (e.g. a unit firing 3 LAD systems at one attacking aircraft would roll D6 + 2 types + D10).

[Note that if two or more aircraft (operating together) are attacking one unit, the player under attack must decide how to divide his LAD weapons - each may only fire at ONE of the aircraft.]

The result of the rolls are calculated as for ZAD fire effects, except that only TWO chips are drawn (as for a BASIC ADS) regardless of the actual number of LADs firing. The Chips drawn are compared with the Armour Rating as above, thus causing the attacking aircraft to do one of the following: complete its attack, abandon mission, abort with damage, etc.

If the aircraft survives everything that the Air Defences throw at it, proceed to the attack resolution steps.
INTERFACE LANDINGS:

Troops and vehicles may be landed from orbit in interface Craft (Dropships and Assault Landers). It is not necessary (for wealthy players) to go through a lengthy design procedure for such craft, as they will probably only be used for one turn in the game. Use the following notes for guidance:

1. DROPship are the big interface craft, used to carry heavy armor and support vehicles. Each Dropship can carry between two and five complete UNITS, depending on the size of the ship and the elements types in the unit. The units may be unloading in the activation FOLLOWING the one in which the Dropship lands.

2. Assault Landers are smaller craft, carrying from a squad of elements up to one complete unit. These elements may unload in the SAME activation that the lander touches down.

Whether or not the interface landers are at risk from AA fire on the way down must be determined by the scenario. In most cases, the potential cost of losing a whole Dropship full of armor will mean that such a landing will probably be attempted, unless the defenders have been subdued. If, however, an "opposed" landing is tried, roll a D6 for each Lander coming in - the score for it to be lost should be determined according to the scenario, perhaps 6 if facing light defenses or 8 if against heavy resistance.

Bringing in ANY NUMBER of Dropships and/or Assault Landers counts as just ONE ACTIVATION for the player; as noted above, elements in Assault Landers may be unloaded and placed on the table immediately, while those in Dropships must be unloaded in following activations - unloading ONE Dropship counts as a full activation turn.

Interface craft may land anywhere on the map, provided they are at least 12" away from the nearest visible enemy forces. When "paying" for interface transport capability in the Points Cost system, points are paid as a percentage of the cost of each element that is to be interfacelanded, rather than paying costs for the landers themselves.

DROP TROOPS:

Certain specially equipped elements (known as DROP TROOPS) may be "directly inserted" into the battle area by either parachute-placed from high flying transports, or in ballistic entry capsules from an orbiting ship. If dropped from 100,000 feet, or higher, infantry may be used, only Powered troops may drop directly from orbit. Only infantry and Very Light (class 1) vehicles and equipment may be dropped, and the only type of non-infantry element that may be initially dropped is the infantry Walker. To simulate the semi-random nature of the drop, take one of the LETTERED MARKERS to represent each UNIT of Drop Troops; the only actual "drops" take markers from at least three feet above the table - they should bounce nicely! The units end up in the center of the drop zone for that unit. Any markers that don't fit on the table represent units either killed by AA fire on the way down, or else missing the drop area completely - either way they are "lost" for the purposes of the game.

The actual models for the units are now put on the table, each unit being scattered around its drop zone marker so that no element is LESS than 4" from any other - thus the unit begins out of unit integrity, and its first activation on table must be to move its elements into integrity distance before it can do anything else.

If a drop zone marker ends up in WOODS, SWAMP or MOUNTAIN terrain, roll a D6 for each element of that unit - on a roll of 1 or 2, it is lost on landing. In URBAN terrain, Infantry elements are lost on rolls of 3 or 4; and vehicle/equipment elements are ALL lost automatically. All elements landing in OPEN WATER are lost completely, except for POWERED INFANTRY and INFANTRY WALKERS who may wade ashore.

When "paying" points costs for Drop Troops and equipment, these are calculated as a percentage of the cost of the equivalent "normal" element.
SMOKE AND OBSCURATION:

SMOKE effects are produced by Artillery Firing Smoke Bombs, by vehicles encased in Smoke Screeners or by fires (burning woods or buildings). The main effect of smoke is to block line of sight and line of fire, and thus inhibit both Direct Fire and Fire support Fire for Artillery. Allsmoke clouds are assumed to be "hot" smoke, either from a fire or from chemical agents in Artillery. Production smoke, and thus are effective against Artillery and all other weapons as well. In situations,

The "smoke" markers on the counter-deed is intended to act as Artillery marker for Artillery Smoke Missiles; to actually represent the smoke clouds on the table we recommend the small "hole" in the cotton fabric that can be purchased in mixed bag of various colours. When smoke is required on the table, put a line of these bags, to the required length as shown, SMOKES CLOUDS ALWAYS EXTEND DOWNWIND FROM YOUR POINT OF ORIGIN.

Wind direction should be determined at the start of the game; simply designate a particular table edge as "34 clock", roll a D12 and use "clockface" directions. The wind direction, once determined, will remain the same throughout the game, unless actual wind is otherwise the scenario.

Fires in built-up areas and woods are started by either Artillery fire (at any kind), or by fire of hill of DODGWRAP vehicles at the area.

When smoke is produced by a fire, the cloud will extend 600m downwind and will remain in place for the rest of the game unless extinguished (a forest or building fire will burn happily for a LONG time if not seen to). The only way such a fire may be EXTINGUISHED during the game is by an ENGINEERING UNIT, if such a unit is moved into contact with the burning area, and then spends a FULL ACTIVATION

The fire is assumed to be out at the end of the unit's activation.

It is assumed the unit will have high firefighting systems such as fielded fire suppression devices to "swat out" the fire. There will be little fire (stand, however, afterwards). When smoke is delivered by Artillery, a "smoke" marker is placed at the Ammunition counter (provided the Artillery battery has one available). The mission is fired as for a Conventional Shot, so with a single impact marker, the smoke starts from this marker, and extends downwind for 2x the number of Artillery elements in the firing battery (thus a three-gun Battery would produce a 600m long cloud). In the case of the Cotton Cloud, which it is fired, the smoke cloud remains at full strength; in each subsequent turn (during the TURN END PHASE), reduce 25% of the smoke from the UPWIND end until all of the fire is gone.

The final method of smoke-layout is from the small dischargers fitted to all military vehicles. With the single "free" APSW, all vehicles are automatically impacted to have smoke dischargers, they need not be fired from points, or included in the Vehicle Design stage.

For simplicity, the dischargers are assimilated to be able to fire as many times as required - the number of times they will be used in most games is probably questionable, and it is not worth keeping ammunition records for them.

A vehicle may decide to fire its smoke dischargers during any activity. In case of a Combat Action the vehicle may NOT fire a weapon as well; the effect of this is to place a single "bait" of cotton smoke "immediately" in front of the firing vehicle; this small cloud lasts until the end of the vehicle's NEXT activation unless the vehicle drives through it or otherwise moves away from it which destroys the cloud is removed immediately. Smoke from vehicle discharges are not as effective as other smoke types - it inhibits visio

In this situation, all vehicles at the affected area have an Artillery smoke marker at the start of the next battle, if they attempt to move or carry out any other action.

A specialised Mine-laying vehicle can place a mine marker immediately BEHIND itself in a Combat Action during any activation this represents the vehicle "laying" mines over a circular area from a specified location. The mine cloud does NOT become active until the vehicle that laid it has moved more than 25m away from it. An Artillery Mine will not move in this manner unless the vehicle is stationary and no other mine is active. If it cannot lay another field until it has been unpaved by another Mine-laying vehicle. A vehicle that can only move in the same area as Artillery ammunition.
CLEARING MINES:

Mine clearance is assumed to use various sophisticated electronic and/or explosive means to disable or destroy the mines over a wide area; thus rather than clearing a narrow path through a mined area the clearance (if successful) will destroy the entire minefield.

Clearing minefields may be done by Combat Engineer units, either on foot or in a specialised engineering vehicle; in either case the engineering unit must be moved so that at least one of its elements is within 2" of the mine; one of the mine markers (the element will NOT be destroyed by the mine). The unit now rolls a die; the Die Type is determined by the number of elements of the engineer unit that are within 2" of the mine; if only one, use a D6; for every two elements within 2" increase the die type by one. On a roll of 4 or greater, the minefield is disabled and the marker is removed from the table. If the roll fails, the unit may still be able to remain in place and attempt the clearance again in its next activation. Making a clearance attempt counts as the Combat Action for those elements; if the attempt succeeds more than one minefield at once, the elements of the unit must of course be bladed between the different minefields; each individual engineer element may contribute to only one mine clearance attempt per activation.

The only other way of exposing a minefield is to hit it with Artillery; any mines marker that falls within the beaten zone of an EFFECTIVE FIRE Artillery mission (of any type except Smoke, or other Mines) is automatically removed from play.

ABANDONED VEHICLES (OPTIONAL RULE):

When a vehicle is DAMAGED, IMMOBILISED or suffers a SYSTEMS DOWN result, there is a good chance that the crew will decide that it is no longer worth staying in the vehicle and waiting to get hit again!

The reaction of abandoning a damaged vehicle is not actually linked to either the quality of the crew or their unit leadership - a seasoned crew are just as likely to bail out through common sense and experience as a green crew through fear.

If players wish to use this optional rule, then whenever a vehicle receives any kind of damage result that does not totally disable it, roll a D6; a score of 1 - 3 indicates that the crew have decided to bail out, rendering the vehicle ineffective as a combat element for use next of the game. When this occurs, mark the vehicle with an ABANDONED VEHICLE counter (the green tank and "Running Man" graph). The major point of using this rule is that it linked Campaigns of games are being played, and vehicle recovery is possible after the battle.

BACKUP SYSTEMS:

During the Vehicle Design procedure, it is possible to "Buy" BACKUP for multiple-redundant SYSTEMS for any vehicle. These functions as follows:

At any time that the vehicle receives a SYSTEMS DOWN result (either on target or fired), there is a BETTER chance of recovery from the damage if the vehicle has Backup Systems available. WITHOUT Backup, the normal wear and tear and system failure of a D6 roll; with Backup, a roll of 6 on a D6 roll if the vehicle HAS Backup Systems, then a roll of 3+ on a D6 is enough to get the systems back on-line and remove the marker.

The Backup Systems can be used more than once in a game, should a particular vehicle be unlucky enough to receive two Systems Down results at different times!

ENGINEERING UNITS:

Combat engineering teams and/or vehicles are organized into units like any other; a typical unit might have two or three Armoured Engineering Vehicles (AXV) with digging and recovery equipment, plus perhaps a Mine/yard vehicle and/or a Bridge/Garage. Engineering units attached to Armored/Infantry teams are more likely to use Engineer teams on foot, with transport provided by normal APCs or trucks - through at least one AVX would normally be attached for APC recovery.

Engineering units may perform a variety of tasks before, during or after the battle. The use of Engineers to create defensive positions before the battle, and to recover disabled vehicles afterwards, really comes into the realm of Campaign games - they have little bearing on the actual battle itself!

Where the Engineer units ARE used in the game itself is in areas like bridge/obstacle laying, clearing and laying minefields, firing guns, demolishing etc; Fire Fighting and Minefield work are covered under the relevant sections. (Smoke, PJX and Mines, PJX) some other engineering functions are detailed below.

BRIDGING: If a Bridge/yard vehicle is included in an Engineer unit, it may be used to cross any suitable obstacle (streams, smaller rivers, narrow passes etc). Laying the bridge takes a Full Activation of the laying vehicle, as does recovering it after use. While the bridge is in use, it may carry the weight of any vehicle equal or less than the class of the Bridge/yard vehicle itself (e.g. a class 4 Bridge/yard can carry a bridge that will support up to class 4 vehicles crossing it).

DEMOLITIONS: If any engineering element is moved into contact with a building, fortification, bridge or even vehicle and spends a Combat Action there, the building or other item may be considered DAMAGED (or vehicle Destroyed) - a structure, mark it with a REPAIR/ BUILDING marker. Note that damaged Engineer Teams CANNOT go out to Demolition if the have an UNDER FIRE marker.

COMBAT REPAIRS: If an AVX spends a complete activation in contact with a DAMAGED, IMMOBILISED or SYSTEMS DOWN vehicle, the player may roll a D6; on a roll of 4 or higher, the damage effect is removed and the vehicle is considered REPAIRED and able to function normally again. If such a vehicle has been "hit behind" by its own unit due to its damage, it must either repair its own unit as quickly as possible, or (if its own unit is destroyed or simply out of reach) use REPAIR/ GROUP with another nearby unit (see P.44). Note that an ABANDONED vehicle, even if repaired, cannot repair the same vehicle as its own unit.
FORTIFICATIONS:

Fixed fortifications and weapon placements can play a part in an actual battle of this sort (as general). Structures should be treated as immovable vehicles, and smaller ones (barracks, bunkers etc.) may be destroyed with the vehicle construction rules.

Larger fortifications may mount any weaponry desired, though of course everything should be "paid for" (at normal cost) if using points values.

The rules for firing at buildings apply equally to fire at fortifications, though of course defended military structures will have much higher Armor ratings than civilian buildings.

The possibilities for types and styles of fortified buildings are almost endless, and obviously cannot be detailed here. If such structures and installations play a part in your games, you will have to provide your own specifications and any special rules that are required.

BUILDINGS AND URBAN AREAS:

When structures are used on the table, they must be defined as either of two basic types: ISOLATED BUILDINGS, or URBAN AREAS. ISOLATED BUILDINGS represent single constructions or small groups of buildings - small farms, military installations (Command or Medical posts etc.), tiny rural villages and the like. Such buildings do not impede movement, though the models used do block line of sight (i.e. elements can be "hidden" behind the building models). Elements that are in direct contact with the building model are deemed to be in SOFT COVER, even if they are not concealed by the building.

Isolated Buildings may be fired at as follows:
- Direct fire - the fire takes all range bands as if CLOSE (provided it is within overall range limits), and the opposing player uses A4 for the building.
- "Assault" fire in all cases. No Standard Die is ever used. Buildings hit by Assaults damage chassis as if they were vehicle targets, with the same vulnerabilities.

Buildings require Armor ratings to resolve damage - these can be decided between the players at the start of the game, but some general guidelines are:

Most civilian buildings (farms, dwellings etc.) - Armor 3
Industrial installations, factories, Warehouses etc. - Armor 5

Military installations:
- Armor 6 or 7

(The reasoning behind the relatively high Armor ratings is that the models used are much smaller than actual Army vehicles - an average Vietnam tank, for example, can take in relation to a much smaller vehicle element.)

When a building is DESTROYED (i.e. draws enough Damage Points to exceed its Armor Rating), mark it with a RUINED BUILDING counter. Special damage rules do not count against buildings EXCEPT for the "SOOMA" rule, which destroy any structure.

RUINED buildings no longer block line of sight, although elements in direct contact with them may still claim Cover in them.

URBAN AREAS represent large zones of densely packed buildings - towns and cities, and big industrial complexes. They are treated as a separate TERRAIN TYPE for movement purposes, as they can severely restrict the mobility of most vehicles.

For Combat purposes, Urban Areas are treated very much like WOODS units, can be defined as being either on the EDGE of an Urban Area, or actually within the area, with exactly the same limitations on firing effects as for Woods (see page 27).

The major difference between Urban Areas and Woods is that vehicles may move in the Urban Area (albeit only slowly), whereas most vehicle types are prohibited from entering Wooded areas, except to take cover in the wood edge.

With Infantry deployed, an armoured column advances through an Urban Area
(Vehicles by Sota and QT, Infantry by Irregular, buildings by GDS)

COMBAT IN URBAN AREAS:

Any combat between units in an Urban Area is treated as a Close Assault action, and is fought out using the Close Assault (and if necessary Combined Close Assault) rules on page 34/35.

No Direct Fire Combat or Urban Range Fire effects are permitted inside Urban Areas, as all vehicles are basically equivalent in Close Assaults (regardless of size or weaponry), this makes Urban Areas very dangerous places for bigger vehicles - which is just as it should be!

ARTILLERY FIRE AGAINST URBAN AREAS:

As an Urban Area represents a very large number of buildings close together, and the actual model buildings used are only symbolic, when such an area is attacked by Artillery, it is treated differently from attacks on isolated Buildings instead of drawing damage chips for the buildings, the following system is used.

Only CONVERGED SHEAF, EFFECTIVE FIRE missions with HE rounds (or Nukes, if you want to be REALLY silly...) will have any real effect on Urban Areas. Other fire simply knocks down a building here or there and upsets the local population.

When such an effective mission is fired at an Urban Area, simply place a RUINED BUILDING marker at the point of impact. This indicates that enough of the immediate area has been rubble to impede movement.
Once the marker is placed, NO vehicle may move within 2" of the marker; infantry may move as normal, and if they wish may occupy the Rubble area and treat it as a DUG-IN position put + Dug in marker by the Infantry unit while in the rubble. But remove it if they move - it represents the troops taking advantage of the rubble, not occupying prepared positions.

If a rubble area blocks a main highway through an Urban-Area, the benefit of the highway is lost - units must take the road and move at the Urban terrain rates, with vehicle units having to detour all the way round the rubble area.

[Making a town or city will reduce the WHOLE area to an impassable, rubble ruin - but then you probably guessed that didn't you...?]

NUCLEAR MUNITIONS:

As discussed in the Artillery rules, the use of NUKES is an option that is not to be taken lightly. Whether you allow their use in the game at all is a matter that requires the full agreement of all players, and justification in the scenario being played.

The kind of Nuclear weapons we are talking about here are small, "Battalion-sized Tactical" types - probably much less devastating that those already in use today - but firing one will still cause MASSIVE havoc across the table.

When a Nuke round is delivered to an impact point, it has a total BATTLEFIELD EFFECTS INCREASING in diameter. The INNER ZONE, within 2" of the impact marker, is completely vaporized - everything within this area is immediately and totally destroyed, regardless of what is there. There is then a MEDIUM ZONE, out to 5" from the counter, where all infantry are automatically killed (even Powered troops) and all vehicles must draw five Damage hits (ALL of their colours are valid). Finally there is the OUTER ZONE, up to the limit of 9" from the impact point, in which all infantry and vehicles must draw THREE Hits each, again with ALL colours valid except for Dug-In elements, which count only REDS and YELLOWS.

Immediately after the explosion, ALL units belonging to the player under the Nuclear attack must make a Confidence test at a threat level of 1. The tests are taken at these levels only if all of the Effect is in the game, but if any are then used ALL units on BOTH sides must test again at a threat level of +1.

EVEN ONE on the table will get distinctly uncomfortable when the Nukes start flying - if players use them repeatedly many of the units on both sides will start to suffer severe confidence losses...

After the damage due to detonation is resolved, the Impact marker is removed but the Nuke counter (the Radiation symbol) is left in its place, marking the Ground Zero point of the blast, for the rest of the game. NO element may approach closer than 2" from the marker, as this one is a "LIVE" item. In addition, only fully sealed vehicles and Powered infantry may approach within 10" of the marker - this area is impossible to all unsold infantry and non-NBC protected vehicles due to the radiation levels.

BIOCHEM MUNITION EFFECTS:

Biochemical warfare in the game is treated as "non-permanent agents" - that is, they do their unspeakable job and then quickly dispense. While they are not quite as disruptive to game balance as Nuclear munitions, they are still too often be used where they can be justified.

Biochem rounds are always fired as an OPEN SHEAP mission, and the agents affect the complete battle zone. The effects of Biochems depends largely on surprise - after they are first used in a battle, the troops will be taking countermeasures (ie: they will have their masks on and "Noddy Suits" on, vehicles will be sealed and overpressurized etc.) Thus the most effective Biochem strike will be the first one used in that game; in this first attack, all LINE and MELTA units in the Battle Zone have THREE shots drawn against them, with ALL colours valid (Dug-In elements get NO bonus against Biochem attacks). Open or non NBC protected vehicles are counted as LINE INFANTRY for this - it is the CREW that are affected, not the hardware. Powered infantry and sealed vehicles are NOT affected. Note that the agents are assumed to be "heavy" chemicals that are not significantly affected by wind.

On this first use of Biochem munitions, ALL units of the player being ATTACKED must make Confidence tests at Threat level +3, and ALL of the FIREES' units must test at +1.

In any subsequent use of Biochems (by either side) in that game, the effects are reduced to TWO shots per line, Melta or unproected vehicle element, with only RED shots valid, and ONLY if the units caught in the actual attack need make Confidence tests (at the normal Threat level for being under Artillery attack).
EXOTIC ENVIRONMENTS:

Games set on other worlds (and even ones set in certain parts of this planet, e.g., Antarctica) have terrain and conditions very different from those in Earth's temperate zones. Icefields, very hot volcanic zones, high or even vacuum environments - all can be looked at for variety in game settings.

To go into detail on all such environments would take up half this book; in any case, you can refer to any science fiction magazine. What follows are some guidelines to help you get your own imaginations working - after all, that should be half the fun when you have to look at the effects of a given environment. Some of the limitations become obvious. For example, GORIs and any conventional aircraft or helicopters can't function on vacuum worlds. Extremes of temperature and air gravity will mean all infantry in a vacuum have to be Power Suits, and hostile/lethal atmospheres will similarly require all troops and vehicles to be fully sealed at all times.

"Exotic" scenarios can often be used to "balance" games between otherwise incompatable forces, and in any case they can be an enjoyable change from the basic style of game.

Don't forget the possibilities of native faces and faunas - a few dangerous plants (acting like biochem-agents on any unprotected troopers) and some randomly roaming wildlife on the battlefield can add all sorts of twists to the game!

ALIEN RACES IN DESERT II:

Most of the rationale behind the game is based on human vs. human conflicts, but the framework of the rules will function equally well for humans-or-or alien adversaries. A full and detailed treatment of the subject of alien races is outside the scope of this book, though hopefully it is something we can explore more deeply in a future supplement. If you want to include alien forces in your battles, then try to ensure that they use sufficiently different technology and force compositions that they have a "different" feel to the human armies - for example, humans have some of the most tech vehicles, and equipment up against an alien invador with allfrau vehicles and energy weaponry - or everbody else.

A more complex question than the technology of the alien forces is their psychology - if they react to combat conditions and stress in ways that are different from humans, then they are different people than the traditional "man in a rubber suit" type of alien. What is really needed is to give each alien race its own unique variables in terms of confidence, leadership etc. - perhaps they have a different set of leaders and goals, and the death of one will send the rest of the unit into a killel Oregon! Alternatively, maybe the sight of a truly alien enemy unit triggers the same kind of borderland behavior and uncontrolled anger. As with the ideas for backgrounds and scenarios, SF literature and films are learning with things busy and squarly that can be developed for suitable game forces. If you come up with any particularly good ones, please write them to the publishers - we may well use them when we come to do the next supplement.

WEATHER CONDITIONS (OPTIONAL RULE):

Fighting in adverse weather conditions is obviously more difficult (especially for both sides) than in good weather. If players wish to simulate combat in such conditions, the suggestions below will give some idea of the limitations that can be imposed - the exact rules used can be varied to suit the weather and location of the battle (possibly if it is set off Earth, perhaps on some other world with extremely different climate?)

Rainy conditions cause most terrain types to become more or less slippery - try a 10% cover (e.g., GORIs become slippery) for vehicles and infantry. This will cause problems, and vehicles will have difficulties in moving, and so on. Bigger problems for vehicles, and infantry will have to adjust to the new conditions. For example, it may be more difficult to move across certain types of terrain, or to cross certain bodies of water. In all cases, however, the rules should reflect the new conditions, and the players should be encouraged to use their imagination to come up with creative solutions to the problems presented by the weather.

High winds (especially on non-urban worlds) may be so strong that only Powered troops and vehicles can stand against it. Unprotected infantry must remain in their vehicles. Such winds may also force battle movement and air missions impossible.

There are many other possibilities for weather effects that can be explored if you wish - dust and sand storms in desert areas, fog and mist, etc. The best way of dealing with any weather effects is to write them into specific scenarios.

Night fighting can be worked out on a similar basis to adverse weather conditions, but don't forget that most modern forces are very well equipped for night operations, with the provision of advanced sensors, image intensification, and the like. Night fighting is far less difficult or restricted than it used to be.
THE SCENARIOS:

Given below are two possible battle scenarios (plus some extra outline ideas for players to develop themselves) to give a bit of variation to the straightforward "attack-defend" or "encounter battle" type of game; these are obviously only a few suggestions, and players should always seek to design their own challenging scenarios—there is plenty of material to be had in SF films and literature.

A word about the scenarios presented here; they are deliberately non-specific with regard to the forces (and often the terrain) to be used, as they are intended to be modified as you win to fit in with the models, background etc. that you are using for the game. In addition, they are NOT necessarily "balanced" scenarios; the force sizes can be juggled around to suit certain parity values if this is important to you or your opponents, but we would suggest that a far more exciting game can often be had using apparently unequal forces. If you feel it strictly necessary for each side to have an equal chance of "winning", then simply alter the movement and victory conditions to suit the relative strengths and weaknesses of each force.

AEROSPACE FIGHTERS overfly a defended firebase.

Battled by the New Harmone, a force of Human Aerospace Fighters flies off the Stealth fired, and successfully, now unavailable.

SCENARIO 1: BORDER RAID

This scenario represents a typical "hit and run" raid by a small mobile strike force against a defended border post. The situation is set during an uneasy truce between two neighbouring states, Cataonia and New Harmonia, on the "bulwark" of colony world of Regions II (though the same action equally well be set on Earth, or on any other suitable world). Along the disputed border between the two warring states, Cataonia has established a number of small, defended border posts to try and prevent large-scale incursions by New Harmonia forces. This move is seen by the government of New Harmonia as hostile action, and they decide to mount a series of raids in retaliation.

TERRAIN SETUP:

A short table edge should be designated as the border; this edge will be the attacking (New Harmonia) border line. The main feature of the forces will be the border post, which should be a grouping of military buildings similar to a small firebase. This should be located in either the Main Battle Area or the Defender's Rear Area, to the agreement of both players. The terrain around the post should be reasonably close and broken, there should be a road or track crossing the table from the "border" edge to the opposite edge.

OPPONENTS:

CATATONIA: the defending forces should consist of no more than 4-6 Platoons in strength terms, most of which will be infantry. They may have one battery of artillery in support, either within the border post (firebase itself is a very good reason for attacking it) or alternatively as an off-table unit. Some tactical aerospace support may be employed in both players agree.

A suitable base force could be:
- 2 Platoons Heavy infantry (line or assault)
- 1 Troop Main Battle Tanks
- 1 artillery battery
- 1 command unit

NEW HARMONY: the raiding force should be a mobile force and consist of at least as many units as the defending forces, up to a maximum of twice that number (the relationship between for as strength can be adjusted to take into account quality and tech differences between the forces in use).

Supporting forces:
- 2 Troops Main Battle Tanks
- 1 Heavy Battle Tank
- 4 Platoons mechanised infantry (line) or - 12 Support Panzer infantry Platoons (2 fire Platoons)
- 1 artillery battery (off-table asset)
- 1 command unit

OBJECTIVES:

These objective markers should be drawn and used; one must be placed in the border post itself. Before he is able to destroy the game, the attacking (New Harmonia) player must withdraw at least half his own units off his "own" border line.

SCENARIO 2: SPACEPORT DEFENCE

The capture of a major spaceport is a classic prelude to full-scale invasion; the possession of suitable landing facilities is almost essential for the insertion on-world of significant large forces. For an advanced campaign, in this scenario, a high-mobility infantry Assault Combit Group is tasked with taking control of the main port facility on a fairly well-settled colony planet.

TERRAIN SETUP:

The table for this game represents, of course, the spaceport complex. Like 20th-century airports, spaceports are very dispersed affairs by their very nature—so an extensive port area covering several kilometres of ground is not unreasonable. The port setup should occupy most of the table, and while a selection should include at least a few of the following features:

An administration building or complex
A communications and flight control centre
At least one passenger terminal, possibly linked to the admin building
At least one cargo handling facility
Several spacecraft dispersal bays, landing pad or blast pits, bear in mind that huge spacecraft are not usually capable of atmosphere operation, so most facilities will cater for shuttle shuttles and smaller interceptors. A few 1-300,000-scale spacecraft models parked in some of the bays will look rather effective.

A transit system of some kind (eg a monorail link) to connect the port to the nearest city and, possibly also linking up the various facilities within the port itself (passengers won't fancy a 4-kilometer之旅 from the terminal to the blast pads)

Finally, if you have room, include some buildings just outside the port perimeter near the main gates, to represent the "starbase"—all the cheap bars, hotels and other "places of entertainment" that spring up whenever starports are made available to those in their pockets...

OPPONENTS:

PORT DEFENCE: the strength of the defending forces rather depends on whether they are expecting an attack. A good idea would be to have a small force of port security troops on hand at the start of the game, but have a reasonable level of reinforcements on call from the local military base, these can arrive at either a preset or random (die rolled) time after the start of the battle.
A suitable spaceport security detachment could be:
3 platoons of 'leg' infantry (probably militia), only one platoon per platoon would carry a GMD, and only up to 50% of the teams in total would be equipped with IVATs.
1 zone air defense troop
1 command unit
The reinforcements could consist of:
2 troops of Main Battle Tanks
2 platoons of mechanized infantry in LCVs
1 troop of missile vehicles
If you prefer to allow random arrival of the reinforcements, roll a D6 at the start of each turn; add one to the die roll for each turn elapsed since the start of the game. On a score of 6 or more, the reinforcements arrive at the table edge nearest the port main entrance gate.
ASSAULT FORCES:
The aim of the attacking force should be to isolate the defenders and take them out, and, before they can concentrate their forces and organise themselves (and certainly before the reinforcements arrive!). A suitable assault group would be:
4 platoons of Powered infantry
2 troops of fire, light AVPs
2 platoons of infantry in small APCs (probably only 1 team per vehicle)
1 or 2 flights of ground attack fighters for close support
If suitable models are available, the attacking player may deploy his interface (orders in the first move) and unload their troops. The Power infantry may, if desired, be designated as Jump Troops who are deployed to the surface individually (like paratroops). In this case their initial drop locations should be randomised and they will need to re-group (as per Drop Troops Rules on P.43) before commencing offensive operations.
OBJECTIVES:
An agreed number of objective markers should be placed for this scenario, on key areas eg at least two of the spaceport's dispersion bays or pads, the admin and control centres and the main gate (to delay the arrival of the reinforcements). The whole table area is designated as the Main Battle Area; neither player has a 'Year area', as both forces will be spread around the table.
FURTHER SCENARIO IDEAS:
These are just a few simple outlines that players may wish to develop into full scenarios, they are presented here mainly to get your imagination going:
"HOLD THE BRIDGE": A small force of defenders must defend and hold a vital river crossing point until supporting troops can arrive (or the attackers are able to cross the bridge and escape over the bridge). The attackers could be airborne troops dropped into the defenders' rear areas.
"DEFEND OF HILL 331": A depleted, under-supplied and possibly demoralised combat group must hold a vital strategic hill against an enemy attempting to launch a major force (with very little heavy weapon support). Command says hold on its way, but what about it? Does this one sound familiar...?"
"CONNIVING": A simple scenario: one convoy of supply trucks enters, by a small armed force, must be moved (deadly) from one end of the table to the other. The opposing force must ambush the convoy and either destroy or capture it, depending on what it is carrying. So, there you go. Get writing!
POSSIBLE BACKGROUNDS:
It is perfectly possible to play DIRTSIDE II battles without having to worry about any kind of background setting at all. For example, if one player has a force of mainly lower vehicles with energy weapons, and a friend has some tracked and wheeled vehicles with long kinetic cannons - and maybe a walker or two (which can simply set up almost any scenario they like and play a one-off game. What they call their forces, and how these two protagonists got into conflict in the first place, is pretty much irrelevant to the enjoyment of this game.
Many players, however, will want to go into things a bit deeper than this. Having a believable background in which to set up games and campaigns adds a lot of interest to the whole process (battles are no longer just one-off encounters, but can begin to play a part in the much larger scheme of politics and military events that shape and develop the 'future history' of the desired background.
To get about designing your own game background consider the possible types of worlds. Just search the news reports for a few weeks, read a few books on military history and you'll be well aware there are many races and sides. Here is a list of examples:
INTERNATIONAL REBELLION: one side is composed of unorganised militia or rebels, eg a coup in a 'banana republic'.
CIVIL WAR: both sides are using organised armies (and probably the same equipment, eg the American Civil War.
GUERRILLA WAR: one side has massive resources and technology, while the other has little but manpower and thus relies on traditional guerrilla tactics, eg the Vietnamese War.
POLICE ACTION: a big power moves in on a 'little' power to depose what it sees as an 'unfriendly' government, eg the US invasion in Grenada.
PUNITIVE ACTIONS: invasion against cross-border raids and/or terrorism, eg British actions in Afghanistan or the 19th century.
FULL SCALE INVASION: major military action aimed at complete physical take-over of a state or region, eg German invasion of Poland in 1939, or the Gulf War.
It is a relatively simple matter to translate any of these historical examples into a Science Fiction setting - in fact this has been done by nearly every major SF writer and filmmaker you could name! Bear in mind also that there may well be more than one political unit (province, state, colony etc) on a single planet, rather than the whole world being run by just one power, a planet is a very big place, and it is certainly one that a few habitable places are discovered then we will be no shortage of different countries and/or groups wanting to stake their claims to bits of each. The term used for a planet which is divided into more than one political unit is a 'federation' world.
Of course, it may not only be actual states and major powers that field military forces - megacorporations and other commercial concerns will join in as well. All you need to do is for a player to protect their own interests, damage those of their rivals or simply keep worker populations down.
Hopefully these ideas will get you on the way to designing a setting for your campaigns that reflects the reality you like your SF to, rather than the way that some games/manufacturers tell you it is going to be.
CAMPAIGN GAMES:
CAMPAIGN/GM, in Wargame terms, are usually played as a series of "linked" games following the course of a much larger Military operation (such as the invasion of a state, or even of a whole planet!). A complete system for Campaign gaming could fill this book, so we are just going to give you a few ideas to start you off in the right direction. There are a few good books on "historical" war games that cover Campaigns in some detail, and there are all excellent reference material - even in a far future setting many of the logistics and other problems that beset Commanders engaged in extended operations will still apply.
To run a successful Campaign game, or any other series of linked battles, you will need to consider factors outside the basic front line fighting setup of your army. Any force needs a logistics "tail" - and in Mechanised Warfare the number of supply, fuel, maintenance and other backup units often far outweighs the actual "head" of the fighting force.
12 SCENARIOS AND BACKGROUNDS

The provision and use of such logistic support is a hallmark of any successful war. A combat force might win a given battle, but unless it can then be reequipped with fuel and ammunition, lose its wounded and treat its sick and wounded, and continue to move at speed, it is unlikely to ever turn the battle into a lasting victory. This requires both a greater logistical capacity and a better understanding of how to employ it effectively.

FUTURE HISTORY 2000 – 2183AD

The following section is a very condensed version of the Backdrop Development presented in the previous volume. It represents the general political and military situation, and highlights a selection of the most influential figures and events from the 21st and 22nd centuries that are of particular relevance to the kind of ground actions that DIME/DSII is designed to recreate.

Once again, this section is intended as a starting point for you to use if you wish, the information presented here will be further developes in future publications and articles, and extended to cover events after 2183.

The 21st Century:

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TO COST a vehicle in terms of points value, start with the
VEHICLE SIZE POINTS (VSP) = Vehicle Size Class x 5 (or the same
as the CAPACITY points). Thus a Class 1 vehicle has a VSP of 5, Class 2 =
10, Class 3 = 15, Class 4 = 20 and class 5 = 25.

New add ARMOUR RATING to the vehicle. For every “level” of
Armour rating, the cost is 20% of the VSP. eg. Armour 2 costs 40% of the
VSP. Armour 5 costs 100% of the VSP.

ABLATIVE or REACTIVE armour each cost an ADDITIONAL 15% of the
VSP per level of armour. eg. Armour 29 costs 60% of VSP in total.

As the Armour accounts for much of the vehicle’s weight, it naturally
affects the calculations for Power Plants and Mobility. Therefore the
TOTAL of the VSP and the Armour Cost now becomes a new constant
known as the BASIC VEHICLE POINTS (BVP). Power and Mobility costs
are worked out using the BVP.

The desired POWER PLANT type is now added:

CTE: cost = 20% of BVP;
HMF: cost = 40% of BVP;
FGP: cost = 60% of BVP.

(Note these add to running total of casting, but do not alter BVP figure)

MOBILITY TYPE is now costed, once again using the BVP:

LOW MOBILITY WHEELED: cost = 10% of BVP;
HI-MOBILITY WHEELED: cost = 30% of BVP;
SLIM TRACKED: cost = 20% of BVP;
FAST TRACKED: cost = 40% of BVP;
SLOW GSV: cost = 60% of BVP;
FAST GSV: cost = 60% of BVP;
GRAV: cost = 100% of BVP;
AMPHIBIOUS (extra costs): cost = additional 20% of BVP;
CONVENTIONAL BOAT: cost = 10% of BVP;
HYDROFOIL: cost = 40% of BVP;
MAY AIR CUSHION: cost = 40% of BVP;
VTOL/HELI-COPTER/VTOL-COPTER: cost = 500% of BVP;
AEROSPACE (30%): cost = 1000% of BVP;
COMBAT WALKER: cost = 100% of BVP;
TRANSPORT WALKER: cost = 80% of BVP;

Now total-up all the figures so far calculated, to give you the points
cost of the actual vehicle hull (or airframe), before adding any
weapons or other systems.

EXAMPLE:

BUILD a medium, well-armed, 1-tacked hull
(as a major battle tank):

If we take a MEDIUM CLASS 3 vehicle, VSP = 15
Adding Armour 3 costs 60% of VSP = 9
+ 9 24
(The running total of 24 now becomes the BVP)
Adding an HMF Power Plant costs 40% of BVP = 6 (rounded to 10)
+ 10 34
Adding FAST TRACKED mobility costs 40% of BVP = 6 (rounded to 10)
+ 10 44
Total cost of mobile, armoured hull 44 points.

It is now necessary to cost all the other bits you put into the vehicle
— weapons, systems, troops etc.

DIRECT FIRE WEAPONRY:

RFAC systems: cost = x 5 Class of weapon (eg: RFAC2 costs 5 x 2 = 10)
HIC systems: cost = x 8 Class of weapon (eg: MGAC costs 8 x 4 = 32)
HWP systems: cost = x 10 Class of weapon (eg: HWP3 costs 10 x 3 = 30)
MDC systems: cost = x 10 Class of weapon (eg: MDC1 costs 10 x 5 = 50)
HEL systems: cost = x 12 Class of weapon (eg: HEL2 costs 12 x 2 = 24)
DIFG systems: cost = x 15 Class of weapon (eg: DIFG1 costs 15 x 4 = 60)
SLAM systems: cost = x 12 Class of weapon (eg: SLAM2 costs 12 x 3 = 36)

EXTRA ARMOUR cost = 4 each
**13 APPENDICES**

**DB-TABLE: MEDICAL PDR:** STATIC = 100, MOBILE (for vehicle) = 150.

**COMMAND/CDC CONTROL CENTRE** (in vehicle): 100.

**COMMAND/CDC CENTRE (emplaced):** 75.

**ENGINEERING VEHICLE EQUIPMENT:**

**REPAIR/CLOTHING PACKAGE (for AEV):** 75% CLASS OF VEHICLE

**BRIDGE SYSTEM** (for bridgepylons): 50% CLASS OF VEHICLE

**in (less capacity)**

**GENERAL, ENGINEERING PACKAGE (for AEV):**

- Vividly Phasing capability, Demolitions, Firefighting: 100 (Flat rate for any vehicle class).

**INFANTRY POINTS CQS:**

**BASE ELEMENT COSTS:**

- **MULTI troopers:** RIFLE TEAM (6-8 team) = 15 points.
- **ONE troopers:** RIFLE TEAM (6-8 men) = 30 points.
- **POWER troopers:** RIFLE TEAM (6-8 men) = 40 points.

**ASSAULT TEAM:**

- In: ranged fire ability, but extra value in Close Assault; no additional cost - same as Rifle Team.

**SPECIALIST ELEMENTS:**

- (2 man with Close Defence weapons) same cost as Rifle Team, PLUS specialist equipment cost as below.

**GMSC:**

- Cost as for vehicle mount GMSC.

**APS:**

- 10 points.

**Engineering Equipment:**

- 50 points.

**LAD:**

- 75 points.

**Artillery Observer:**

- 50 points.

**CAVALRY** (riding animal) cost additional 10% of basic element points.

**SOME TYPICAL VEHICLE EXAMPLES:**

While a lot of the fun is designing your own vehicles to fit the models you either have or wish to use, just to get you, under way we have provided below a few examples of typical common vehicle types. If you wish, you can of course modify these basic examples to suit your own forces by simply substituting different Modules, Weapons and such rather than starting from scratch.

**1) MEDIUM BATTLE TANK (Tracked):**

- MEDIUM vehicle (class 3), FAST TRACKED mobility, HMT power, Armour: 3.
- 1 x 1000 in Turret with SUPERIOR Firepower; 1 x RFAD as secondary weapon; ENHANCED GMSC; 1 x APSW.
- ENHANCED ECM.

BasicEffective Signature 3 (DB): POINTS VALUE 172.

**2) LIGHT MCV (GMV):**

- SMALL vehicle (class 2), FAST GEV mobility, GMT power; Armour: 2.
- 1 x 900 in Turret with ENHANCED Firepower; 1 x APSW.
- BASIC ECM, capacity for 1 Infantry Team.

BasicEffective Signature 2 (DB): POINTS VALUE 71 (plus cost of Infantry carried).

**3) HEAVY HOVER TANK:**

- LARGE vehicle (class 4), SLOW GEV mobility, GMT power, Armour: 4.

  - 1 x MODU in Turret with SUPERIOR Firepower; 1 x GMV (ENHANCED guidance); ENHANCED GMSC; 1 x APSW.

- APC, ENHANCED ECM, STEALTH 1.

- Basic Signature 4, Effective Signature 3 (DB): POINTS VALUE 356.

**4) ASSAULT TRANSPORT VTO:**

- MEDIUM vehicle (class 3), VTOL mobility, GMT power, Armour: 2.

  - 1 x RFAD in Chin Turret with ENHANCED Firepower; 1 x APSW.

- ENHANCED ECM, capacity for 2 Infantry Teams.

BasicEffective Signature 3 (DB): POINTS VALUE 178 (plus cost of Infantry carried).

**5) MEDIUM WHEELED APC:**

- MEDIUM vehicle (class 3), HI-MOB. WHEELED mobility (plus APHIBI-

  - OUS capability); GMT power, Armour: 3.

  - 1 x MODU in Turret with ENHANCED Firepower; 1 x APSW.

- BASIC ECM, capacity for 2 Infantry Teams.

BasicEffective Signature 3 (DB): POINTS VALUE 70 (plus cost of Infantry carried).

**6) MEDIUM ARTILLERY VEHICLE (Tracked):**

- MEDIUM vehicle (class 3), SLOW TRACKED mobility, GMT power, Armour: 3.
- 1 x 170 Howitzer (Medium Artillery); BASIC ID; 1 x APSW.
- APC, ENHANCED ECM.

BasicEffective Signature 3 (DB): POINTS VALUE 209 (plus cost of Ammunition).

**7) AREA-DEFENCE VEHICLE (Tracked):**

- MEDIUM vehicle (class 3), SLOW TRACKED mobility, GMT power, Armour: 3.
- 1 x ENHANCED AD; 1 x APSW.

- SUPERIOR ECM, BACKUP SYSTEMS.

BasicEffective Signature 3 (DB): POINTS VALUE 398.

**8) BOUND-ATTACK AEROSPACE FIGHTER:**

- MEDIUM vehicle (class 3), SPACE-AIR mobility, FCP power, Armour: 2.

  - Capacity for 3 Crew or Ordnance Loads (DIO pods); 1 x APSW.

- ENHANCED ECM.

BasicEffective Signature 3 (DB): POINTS VALUE 274 (plus cost of Ordnance Load). Point to total cost for unit = 280 points for vehicle plus 200 for Infantry (HMG) carried), = 480 POINTS for whole unit.

**MEDIUM ARTILLERY BATTERY:**

- Self-Propelled Artillery vehicle as in (6) above, plus one Area Defence vehicle as in (7) above; points cost for unit = 1820 POINTS (plus 210 for typical basic ammunition load of 1 x 1000, 1 x 50 and 1 x 50).

- [Additional elements such as a Counter Battery radar vehicle and/or extra ammunition transports could be added to this unit if desired.]

**TERRAIN AVAILABILITY AND MODELLING:**

As with all miniature wargaming, DUNGEON II will be most enjoyable when played on an attractive tabletop layout such as that shown in the photographs in this book.

At its simplest, terrain can be formed just by placing a cloth, sheet or other suitable flat or uneven surface on the top of an attractive and top terrain layout that can be fashioned in wood, plastic, expanded polystyrene or a combination of all these rather than try to go into all the details of how to make something along these lines, we suggest you check out the many good books on landscape modelling that are published for the model railway hobby. Always remember, however, that you are making a layout for playing a game and rather than just a diorama to be looked at; features must be modelled for the whole system based on "geomorphic"-back of modules that can be fitted together as a wide variety of ways as possible. Hills should have stepped "contours" and mountains should be modelled on rather than having actual slopes, and so on. A good terrain is one that looks attractive, but also aids play rather than hindering it just for the sake of aesthetics.
At alternative to making your own terrain layout is to purchase one of the many good commercial "modular" or "infrared" systems. Although such terrain does not appear cheap at first glance, when you consider the investment of time and materials costs involved in making your own terrain, it becomes a lot more attractive. Most of the available systems are made from high-density polystyrene foam covered in grass or sand. They effect "foam" which makes them light to transport while being surprisingly durable if looked after. The vendors have used in the photos in this backdrop (including the colour photo on the front cover) is the "GAMESCAPE" system made by GEO-HEX. The system consists of hexagonal terrain tiles about 12"x12", which with a wide selection of "pasta" tiles and floor sections will allow virtually any type of ground feature to be recreated - hills, gullies, finally rocks, cliffs and even mountains. Available in grass green or desert yellow, the GAMESCAPE sets are probably the most realistic and variable faux-tas if ready made gaming terrain you can buy. In addition, if you are going to use cloth terrain the GEO-HEX range includes some very wide 6' x 6' felt cloth coated in the same grass or sand look as the foam terrain tiles - very compact and easy to store if you haven't got a lot of space available. For further information, customers in the USA and Canada should contact GEO-HEX: the address given below, in the USA, we are out of ZONE Games can provide more details on GAMESCAPE availability.

The most popular type of modular foam terrain is the "tile-style" system that will probably be familiar to all of you that have ever been to a Warhammer convention or show in the UK. Foot-covered foam blocks are available in either 12" or 24" square, other sizes and even sculptures with a variety of different surface features, packs of assembiled hex cell contours are produced which may be stuck to give variable hilly texturing. The best and widest range of such modules available in the UK is that produced by TOTAL SYSTEM SCENERY, who produces not only green and "desert" tiles but can also make tiles for you in virtually any "Science-Fiction" collection you might want - who says you can't add a couple of spots on an Aliens or an ARAV? We like to TTS for further details, enquiring a stamped SAE.

Finally, you will probably need some "man-made" features for your terrain - buildings, fences, bridges etc. There is a huge selection of suitable modules currently available, most of them hang in caravans. The photo shows in the photos throughout the book are from three recommended manufacturers - ourselves at Ground Zero Games (the "modular" range), which includes the Modular City (This system shown on its back cover colour photo), the Snapdragon (which available from us at GZG), or direct from Snapdragon themselves and The Draun (available direct from the address below).

For USA Customers, both our own GZG Micro LAND and the Draun's range is available from GEO-HEX, who are producing the GZG items under licence as the CMORPSPACE Label.

**MODEL AVAILABILITY:**

In the recommended 1:500 2,25 scale, there is no set selection of suitable modules of 28 mm terrain, infantry, combat vehicles, gun emplacements and much more on the market. As DIRT SIDE II allows you to classify ANY 28 mm vehicle that you wish to use, you can take modules from almost any mix of manufacturers to form your armies. The ranges and making lists below are just a selection of what is available - check your local games shop and the specialist wargaming press for latest releases.

C.M. DESIGN: This highly varied range is available by mail order from collections of 28mm models, infantry, combat vehicles, gun emplacements and much more on the market. As DIRT SIDE II allows you to classify ANY 28 mm vehicle that you wish to use, you can take modules from almost any mix of manufacturers to form your armies. The ranges and making lists below are just a selection of what is available - check your local games shop and the specialist wargaming press for latest releases.

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IRREGULAR MINIATURES: A large range of AFVs (mostly Ground types), VTOLs and some very useful little ready-made teams of infantry (as used in several of the photos in this book). The models are neat, as sharp or well detailed as some other ranges, but are effective when painted and are certainly very reasonably priced.

MINIATURE FIGURINES ("MINIFGS"): A number of different ranges were white labels from US manufacturers, including some good ground types, airborne types, and virtually every kind of Combat Walker you could ever want.

As mentioned, this list is far from exhaustive - there are many other companies making a very wide range of suitable modules, please consult all the conversion potential offered by these various "modular" ranges in this list. A present-day tank chassis filled with a new kit is from one of the 16 ranges makes a perfect 20th Century tank.

**CONTACT ADDRESSES:**

- Details can be found in the best of our knowledge at time of going to press.

- SNIPAPRAG/STUDIO: 3 Hornby, Heywood, nr. Wilsely, Wilsely 8133 4LQ.

- IRREGULAR MINIATURES: 60A Aomaly Road, milford, York 700 QEF.

- THE DRUM: 107 Waibling Street Wst, Tiechester, Nortnem 11027 2AG.

- MINIFGS: 1-5 Graham Road, Southampton, Hants. 700 QAX.

- TSS: PO Box 857, Warwick Park, Surrey, 70119.

- USA/CANADIANS: AMERICAN READERS CONTACT:

- GEO-HEX: 212 North Lewis, P.O.Box, Oregon 97277, USA

([For additional information on the subject of minifigs, please consult all the conversion potential offered by these various "modular" ranges in this list. A present-day tank chassis filled with a new kit is from one of the 16 ranges makes a perfect 20th Century tank.])
BIBLIOGRAPHY:
The books listed below are merely a small sample of the vast quantity of "Combat 5" available. They are included here because all of them have relevance to the kind of battles and forces you may face in war.
John Dumas - THE REGIMENT
Gordon Dickson - THE DORKAM SERIES (TACTICS OF MISFIRE, SOLDIER ASK NOT, DORKAS) and others, (COMBAT 5)
David Drake - THE HAMMERS, SLAUMERS, SERIES (SLAUMERS, SLAUMERS, COUNTING THE COST, AT ANY PRICE, ROLLING HOT, THE WARRIORS), SPACE INFANTRY (ED.), THE MILITARY DIMENSION, CROSS THE STARS.
Roland Green - PEACE COMPANY
Joe Haldeman - THE FOREVER WAR, SURVIVANTS (ED.), BROWN ARMOR 2000 (ED.).
Robert Heinlein - STRANGE TRIPPELERS
William Keith and Andrew Philip - THE FIFTH FOREIGN LEGION SERIES - (March OR Die, Honor and Fidelity, Doom of the Damned).
David Langford - WAR IN 2080 (Non-Fiction).
Keith Lawren - ROGUE (And the COMPLET SOLO).
Rafael Peters - THE WAR IN 2020.
Jerry Pournelle - THE MERCENARY.

GLOSSARY OF TERMS:

ADJS Air Defense System
APC Armored Personnel Carrier
APRC Anti-Personnel Repulsion Charges
ATLS Assistant Platoon Leader
APSW Anti-Personnel Support Weapon
BMP Base Movement Factor
BR Broken (Confidence Level)
BSVP Basic Vehicle Points
CASW Casualty Executions (aka Medevac)
CBT Counter Battery Radar
CCE Chemical Fueled Engine
CL Confidence Level
CVD Combined Confidence Level
DFF Direct Fire Fusion Gun
DFSS Dead (Ex: Commander - freight weapons)
DMN Disengaged Maneuver (artillery round)
EDCF Electronic Counter Measures
TVP Fusion Contraction Plant
FAFA Fan Control
FRGS 1"x2" New Guy
FDR 4"x8" Dispersal Fragmentation (antiaircraft rounds)
GVS 2.5" x 2" Effects Vehicle (Booster vehicle)
GWM Guided Missile System
GWG Anti-Gravity Ship System (or May-reg)
HAR Heavy Artillery Rocket
HBT Heavy Battle Tank
HTF High Energy Laser
KAT Knight's Arsenal (artillery)
KYR Knight's Arsenal (artillery)
KMT Hydroelectric Turbo
KVS Knight's Vessel
SAVSA Infantry Anti-Vehicle Rocket (aka "Suzoom")
SAVSA Infantry Combat Vehicle (aka MCF)
SAD Local Air Defense
SAGR Maglev Raygun - Repulsion drive similar to Star
SASK Small Arms Killers (artillery round)
SMBT Moven (Messeud Battle Tank)
SMCZ Missile Coven Car
SMRC Mobile Rocket Launcher
RIDE Mob of Earth
PEO Point Defense System
PFDU Rapid Assembled Munitions
RFAC Rapid Fire Auto Cannons
RSC Rapid Fire Cannons (level)
RSLW Rail Side Vote (or other watercraft)
STF Shovel (Confidence Level)
SLLS Salvo (Lashed Missiles)
SSCM Stealth Combat System
TVP Theater Vehicle
VSP Vehicle Size Points
VTSI Visual Tactical Off-Loading
ZAD Zone Air Defense

THE RECORD CARDS:
The use of a RECORD CARD for every different TYPE of vehicle (or Aircraft, boat, etc.) in your forces is one of the keys to making DIRTSIDE II fast and easy to play.
Each REDCARD carries virtually all the data necessary to use that particular type of AV in the game; INCLUDING all the ranges, Dye Types and even Damage Validities for its weapons. This means that while the game is in progress, each player simply keeps the cards in front of him for those vehicles he is using; the vast majority of situations that occur in the game can then be decided simply by looking at the relevant card rather than having to flick through the rulebook or flip through TROLL or the Reference Sheet.
Players should try to build up a "library" of cards for the vehicles they design; the cards are sized to fit in an ordinary Index Card box. Once this is done, for any battle simply take out the relevant cards for the different types of vehicles in each player's force (in an average game force probably will not have more than half a dozen different TYPES of vehicles involved per side).

The Record card has been designed to be as general as possible while still having space for the most important bits of information for most "normal" vehicle types. As the design system in DIRTSIDE II is so open and the range of vehicles available is so vast, there may well be a few times where the data space on the card have to be modified or reorganized to cope with a particularly unusual vehicle.

A full page of blank Record Cards is provided for you to photocopy (permission granted to do this for personal use only; most modern photocopying should be able to reproduce them directly onto the card rather than paper, which is of course much better. We suggest that you get a few copy onto different colours of card, to colour code either the major types of vehicles or the different forces you have.

PACKS OF PRINTED AND TRIMMED RECORD CARDS WILL SOON BE AVAILABLE FROM GUG - contact us for details and prices.

DIRTSIDE II

REC0RD CARD EXAMPLE:
Filling out the RECORD CARD should be self-explanatory in most cases once you know the rules of play, but to give you an example of how the card below is completed for the same "DEMON" Heavy Hover Tank that we used in the DESIGN example on p.46.

Note that wherever a "D" is printed on the card, this is a prompt to insert the DYE TYPE used for that particular system, range etc.
The Weapon Data lines have all the necessary space for "Type, Mount (eg: turret or fixed), ranges, normal Dye Types and 3 Validities for direct-fire weapons, in the case of weapons that don't need all this information simply use the spaces for what IS relevant (as for the G04M-7 in the example, which just needs one "maximum" range band rather than separate Close, Medium and Long ranges). Anything not specifically covered on the card such as Infantry carried, in the case of an APC or MCV, and a reminder about the "free" APSW fitted to ALL vehicles should be entered in the "Other Equipment and Notes" box at the bottom of the card.

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