Modern Unit Capabilities

Mine Protected Vehicles (MPV)

With the rise of 'asymmetric' warfare in the latter part of the 20th Century, mines and command-detonated IEDs have become the main threat to regular armies forced to engage in such conflicts. While these weapons inflict a low level of casualties in military terms, the demoralising effect of a constant trickle of such casualties can have a seriously deleterious effect both on the army involved and on public opinion back at home. As a consequence, mine-protected vehicles (MPVs) began to appear in various revolutionary wars from the 1970s onwards.

Rhodesia pioneered the MPV concept during the wars of Zimbabwean Independence and South Africa built on that experience during the insurgency in Southwest Africa (Namibia) and their external war in Angola. The South Africans produced some excellent designs, such as the Hippo, Bulldog, Buffel, Wolf Turbo, Rheebok, Kwevoels, Ratel and Casspir. The Casspir in particular, set the standard for vehicles of this type and its legacy can be seen in the myriad of MPVs now in service around the world and particularly in Iraq and Afghanistan. The British also produced an MPV during the 1980s; the Saxon, which proved highly effective in providing protection against the PIRA culvert bombs that had previously caused serious casualties to the British Army.

In 'Battlefront: Modern' we are only concerned with MPVs that carry passengers – i.e. APCs and command vehicles. Some vehicles, such as the South African Ystervark antiaircraft vehicle, are MPVs in that they will protect the crew from a mine explosion, but in game terms this is irrelevant, as bailed-out vehicle crews play no part in Battlefront and the Ystervark has no dismountable elements.

A misconception that needs to be cleared up is that MPVs are just as likely to be KOd by mines as any other vehicle. The difference is that the passengers are more likely to survive. I have seen other wargames rules where MPVs are more likely to survive passing through a minefield. This of course, is nonsense.

MPV rules:

> Vehicles with Mine-Protected capability built into the design will have their unit cards marked with '+n MPV', where 'n' is the number added to the Bail-Out roll when a Troop unit attempts to dismount from a vehicle following a Suppress, Disorder or KO caused by a minefield or IED.

Infantry Heavy Weapons Mounted On Vehicles

Some infantry heavy weapons may be mounted on their transport vehicles, to enable them to fire while mounted. E.g. mortars mounted on mortar carriers, ATGMs mounted on jeeps, machine guns mounted on various vehicles, etc. Modern military vehicles are frequently designed with this requirement in mind. Such a capability will normally be listed on the carrier vehicle's unit card or on the unit TO&E.

However, attaching a heavy weapon to its carrier vehicle does come with certain disadvantages:

1. When a weapons carrier comes under fire with a heavy weapon mounted (which is listed as being able to fire from the vehicle), the transported heavy weapon may not attempt to dismount using the Bail Out procedure.

2. This procedure is identical to that used for towed Guns: if the vehicle is KO'd, the heavy weapon is automatically lost along with the carrier, as it takes an unacceptably long time to detach the weapon from its carrier.

Explosive Reactive Armour (ERA)

Following the Israeli experiences in 1973 against Egyptian troops armed with the Soviet 9K11 '*Malyutka*' ATGM (known to NATO as the AT-3 'Sagger'), the Israelis began work on a new concept – Explosive Reactive Armour. This is an array of flat explosive blocks, sandwiched between metal plates, which are used to 'tile' the skin of a tank or armoured vehicle. The Israelis eventually had a working system called 'Blazer', which was fitted to Israeli tanks in time for their invasion of Lebanon in 1982.

The Soviets meanwhile, had simultaneously developed their own system called '*Kontakt 1*' that was already being fitted to certain T-64 and T-72 models and would later be fitted to the T-80. Both nations initially had safety problems with their ERA, with detonations occurring due to small-arms fire, mortar fragments, etc. However, the bugs were eventually ironed out and both systems were regarded as effective protection against not only ATGMs, but HEAT or HESH warheads of all types. The US Army later adopted Blazer in order to improve armour protection on its remaining force of M60 tanks.

More recently, ERA has been further enhanced and some claim that the latest designs can even stop kinetic penetrators as well as chemical warheads (though as these rules are only intended to be relevant up to 1990, I'll leave that for someone else).

In BF: Modern, ERA provides extra armour protection against weapons that fire using green boxes on their unit cards (i.e. ATGMs, infantry rockets and low-pressure guns using primarily HEAT or HESH ammunition).

Unit cards marked with 'ERA Capable' MAY be equipped with ERA. This is not guaranteed: ERA was not permanently fitted as a matter of course, due to obvious safety implications. It would therefore need to be fitted upon mobilization and this could be a long and laborious job. It also depended upon the ERA blocks being immediately available for fitting. During the First Chechen War of the early 1990s, Russian T-80s suffered due to the fact that there had been insufficient time to fit the ERA before deployment. However, in the event of a high-intensity war in West Germany, it is a fairly safe bet that all ERA-capable tanks in the first echelon would initially have been fully fitted out.

If ERA is fitted, use the following rules:

1. All vehicles fitted with ERA must be indicated by a suitable marker (we use small green stowage boxes placed on the rear deck). This will be removed when ERA protection is lost (see rule 4 below).
2. Chemical penetration effect (i.e. any firing factor contained within a green box on the firer's unit card) will be halved (fractions rounded up) if the target has ERA fitted.
3. ERA only boosts the front armour of a vehicle. It provides no bonus to flank armour.
4. ERA protection is lost after the first SUPPRESS or DISORDER effect is caused on the vehicle by any type of Direct Fire against the front armour. Remove the ERA protection marker.
5. Vehicles fitted with ERA may not carry Tank Riders.
6. Optional Rule: When a vehicle fitted with ERA is Suppressed, Disordered or KO'd by Direct Fire against the front armour, all T, G or sV units within 2 inches of the vehicle must suffer an immediate Direct Fire attack, with firepower of -1 (ERA fragmentation effect).

Chobham (i.e. Advanced Ceramic Composite) Armour

While the Israelis and Soviets were working on ERA as a defence against HEAT warheads, British defence scientists were already working on a very different form of armour – one that was passive, rather than active, utilising ceramics. It was known that ceramics could dissipate colossal amounts of heat energy, but the disadvantage is that they are relatively brittle and could not withstand large amounts of kinetic energy.

The solution therefore, was a sandwich of many different types of armour materials, to provide universal protection against all types of warheads. The Soviets had already been working on such a system, with the first generation appearing on variants of the T-64, T-72 and T-80. However, the Soviet composite armour systems were nowhere near as effective as the British system, which became known as 'Chobham', named after the defence laboratories in Surrey, where it was developed.

The first tank to see frontline service using Chobham wasn't British at all, but the American M1 Abrams. This was soon followed by the British Challenger. The venerable Chieftain also received a Chobham upgrade package called 'Stillbrew'. The Americans further enhanced Chobham by adding a Depleted Uranium mesh to the armour matrix.

The main advantage of Chobham is that it is universal – it will stop virtually anything – and that it will not degrade under fire like ERA, which will progressively blow off. The disadvantages are that it is very heavy, thus limiting it to larger, heavier AFVs, and that it is very expensive.

Vehicles fitted with Chobham armour will generally have a higher-than normal base armour factor and will also apply the following rules:

1. Chemical penetration effect (i.e. any firing factor contained within a green box on the firer's unit card) will be halved (fractions rounded up).
2. Chobham only boosts the front armour of a vehicle. It provides no bonus to flank armour.

Superior Gun Stabilisation

Being able to accurately engage targets while on the move is a very powerful capability of modern tanks. Gun stabilisation has been a feature of tank design since the Sherman, but it is only since the 1970s and 80s that gun stabilisation has made tank gunnery on the move virtually as accurate as gunnery at the halt. Consequently, while most postwar tanks may have stabilised guns to some degree, only a few modern tank designs can be said to have stabilisation good enough to make a difference in game terms (e.g. Leopard 1 & 2, Challenger, Abrams and T-80).

Note that tanks with Superior Stabilisation will always also have Superior Fire Control (see below).

Tanks with Superior Gun Stabilisation will have 'Stabilised' noted on their unit card and will use the following rules:

1. If the tank fired in the Offensive Fire phase and has two actions available in the subsequent Manoeuvre Phase, it may move for one action OR may adopt Overwatch. The Offensive Fire is therefore assumed to use the first action.

2. If the tank has two available actions in its Manoeuvre Phase but did not fire in the Offensive Fire Phase, it may adopt Overwatch AND move for one action.

3. Note that Overwatch can be performed as a single action in this instance, whereas it would normally take the full turn to perform.

Superior Fire Control

The tank commander's ability to quickly identify targets and to communicate that targeting information to the gunner and the gunner's ability to quickly engage those selected targets are crucial factors in modern armoured warfare. Many modern tank designs incorporate a variety of often very high-tech fire control aids, which allow an individual tank to engage and destroy many times as many targets than was possible in WW2.

Note that tanks rated as having Superior Gun Stabilisation will invariably also have Superior Fire Control. However, some tanks might have Superior Fire Control without Superior Stabilisation (e.g. an older design will often have an upgraded fire control system added, though adding upgraded stabilisation is not normally possible; requiring a completely redesigned turret and essentially a completely new tank.

Tanks with Superior Fire Control will have 'SFC' noted on their unit card and may fire TWICE in the Defensive/Opportunity Fire phase.

Large Firing Signatures

In the standard spotting rules, units that open fire attract a +1 shift on the Spotting Table. This is sufficient for conventional guns and smallarms, but some post-WW2 weapons such as Recoilless Rifles, Surface-to-Air Missiles and Anti-Tank Guided Missiles often have unusually large firing signatures. Apply the following rules for these weapons:

1. Weapons that have unusually large firing signatures have a note such as '+2 spot ATGM' or '+3 spot SAM' marked on their card. This means that when these weapons are fired, they attract a +2 or +3 shift on the Spotting Table INSTEAD OF the usual +1 (NOT in addition to the +1).
2. Weapons such as 105mm+ Recoilless Rifles, first-generation ATGMs and most SAMs will get the +3, while smaller Recoilless Rifles (e.g. US 75mm or Soviet 82mm) and more modern ATGMs (e.g. MILAN, AT-5 or TOW) will get +2.

Note that common sense needs to be applied. For example, a BMP or Bradley would only attract the additional spotting modifier when firing their ATGM – when firing their gun they would get the normal +1 modifier. Similarly, a SAM team firing smallarms in self-defence against infantry would only attract a +1 spotting modifier and not the +3 for firing their SAM.

Changes to Hull-Down Rule

There are two major factors affecting going Hull Down that have become more prevalent since the end of WW2:

First, is the necessity for larger and larger guns in tanks, while balancing this against the need to reduce the tank's profile. The Soviets in particular, considered that keeping their tanks low in profile was of vital importance when pursuing their primarily offensive doctrine. The resultant low turret profiles in Soviet tank designs meant that the gun's breech could not raise very far, thus preventing the gun from being depressed to any great degree.

This then means that these tanks are very difficult to get into a hull-down position, where the ability to depress the gun is of vital importance. This was not something that bothered the Soviets very much, whose primary concerns were highly-mobile big guns behind thick armour.

The rule for this is very simple:

1. These vehicles have their cards marked with a note such as '-2 Hull Down Check', which is to be applied to the die roll when attempting to go hull down.

By way of contrast, NATO doctrine was for most of the Cold War, primarily defensive in nature. Therefore, a great emphasis was placed upon being able to fight from hull-down

positions and many NATO tank designs increased the turret mask armour, while simultaneously reducing hull armour to keep the weight down and improve mobility.

ATGM vehicles are also relevant here: When these are hull-down, they are often presenting only a very small weapons mounting rather than a turret per se and some are designed to ‘lob’ their missiles over terrain, while the vehicle remains completely hidden. Therefore, these vehicles also often have a Hull Down DF Modifier due to their small target profile when hull-down.

The rule to reflect this is again, very simple:

> 2. These vehicles have a note on their card: e.g. '-2 Hull Down DF Mod', indicating that their Hull-Down defensive modifier is -2 rather than the usual -1 (note that these modifiers are not cumulative).

Mechanised Infantry Combat Vehicles

Some APCs in the modern era were designed with the MICV concept in mind - that the infantry should be able to fight from their vehicles while mounted. Firing ports and/or infantry-operated weapons were therefore fitted. Examples include the BMP, Ratel, M2 Bradley and Marder.

The rules to represent MICVs are:

> 1. These vehicles have a note such as '+1 CC Inf Pass' listed on their card.
>
> 2. This means that if at least one infantry unit is left mounted in the vehicle, the vehicle will gain an additional +1 Close Combat modifier against TGsV units (but not V units).

The Uncertainty Principle & Unreliable Technology

With the enormous theoretical power of some modern weapons such as tank guns firing APFSDS and ATGMs, there will be occasions when the firing factors come out at +10 or more and the result will be an automatic kill.

However, real combat is never that straightforward - often military hardware can go wrong at the most inopportune times and history is littered with such examples. For example, at the first battle on the Lomba River in Angola 1987, a South African Ratel ZT-3 fired three missiles at Angolan T-55s in quick succession - the first two missiles went 'wild' and soared straight up, while the third exploded as it hit an unfortunate Angolan soldier who stood up into the flight path of the missile! The next six missiles all hit their targets, with three T-55s destroyed and two more damaged. On paper and on the range, all six missiles 'should' have hit their targets.

To represent these unpredictable intangibles, use the following rules:

1. Any unmodified '1' rolled during fire combat resolution will automatically have no effect on the target.
   In the case of ATGMs and aircraft attacks, there is a whole heap of high technology to go wrong (multiplied by a high workload for the crew) and an unmodified roll of '1' or '2' will have no effect.
2. Weapons sometimes get rushed into service with minimal testing of the systems and/or training of the operators or the technology simply doesn't work in the field and is pushed into service for political reasons or the weapons are simply badly maintained. In such instances, the scenario designer could add a more severe chance of it going wrong (e.g. 1-3).
3. Some units (e.g. M551 Sheridan and M60A2 'Starship') have 'Unreliable Tech' printed on their cards. These will automatically apply the 'Fail on a 1-3' rule.

Ground Surveillance Radar

Ground Surveillance Radar (GSR) is an important part of modern reconnaissance. Most nations field reconnaissance vehicles fitted with GSR and many have dismountable GSR sets. Apply the following rules to simulate the effects of GSR on spotting:

1. GSR sets, whether dismounted or fitted to vehicles, must be stationary and deployed in order to operated and take 1 action to deploy (like artillery).
2. When a dismounted GSR set is deployed, treat it as a Medium Gun for targeting purposes, though it does not count towards ME strength and overall losses (it is just a piece of machinery – the crew operate it from the command vehicle). The command vehicle must remain within 5 inches of the dismounted GSR set.
3. GSR gives the reconnaissance vehicleunit an ADDITIONAL +1 spotting modifier against T & G targets and +2 against V targets.
4. GSR is blocked by higher elevations and by Dense Concealment. However, GSR may still 'see' 4 inches beyond the edge of Dense (vegetation) Concealment, with all targets within this area being classed as on the Edge of Concealment.
5. Troops in Dug-In or Improved Positions are immune to radar spotting, as are units of all types when deployed in BUAs or 'Street' or 'Rubble' concealment.
6. Any units 'spotted' using radar (i.e. spotted with radar, but unable to be spotted with the normal visual spotting procedure) will be classed as 'Suspected Targets' as per the rules and will not be 'Spotted' until visually confirmed.

Organisation Changes

Battlegrouping

NATO had only a handful of fully-professional armies during the 1980s: namely the armies of the UK, USA and Canada. These armies consisted entirely of volunteers on relatively long-term engagements (normally 3 years+, compared to the 2 years typical of a conscript army) and consequently were able to devote more time to training and tactics, added to the fact that their recruits were normally more receptive to training. As a consequence, these armies were able to form integrated, combined-arms, task-oriented battlegroups with the minimum of fuss and a great deal of proficiency.

The pure Infantry or Armoured Battalion (termed 'Regiment' in the case of British and Canadian armour), organised as per the TO&Es, was essentially a peace-time, administrative unit and bore little resemblance to the Battalion's combined-arms 'Battlegroup' organisation in war-time.

However, note that specialists such as Reconnaissance, Marines, Paras, etc would indeed often fight as 'pure' units, due to the nature of their roles, but the potential for them to form combined-arms Battlegroups was also there.

Note that NATO's conscript armies organised most of their battalions permanently along fixed combined-arms lines (e.g. two companies of infantry and one of tanks or vice versa). While this provided a good balance of infantry and armour in most circumstances, the system lacked the inherent flexibility of the professional armies and effective armour/infantry cooperation was still difficult to achieve.

While Battlegroups were theoretically organised and re-organised according to their allotted task, the most typical organisational modification was to swap one company with another unit, for a company of the 'other' type (armour or infantry). The companies would also swap platoons with each other, so that each infantry company would typically have a platoon of armour under command and each armour company would typically have a platoon of infantry under command. The Battlegroup would also have various divisional assets under command (e.g. FOs, FACs and engineers) and these would be allocated where required in the Battlegroup.

What this means in 'Battlefront: Modern' terms is:

1. US, British or Canadian Armour and Infantry Battalion BGs may swap MEs with each other to form combined-arms battalion 'Battlegroups'.
2. US, British or Canadian Armour and Infantry MEs may swap elements with each other to form combined-arms company 'Combat Teams'.
3. Within a US, British or Canadian combined-arms Battlegroup or Combat Team, Commanders may command tanks, while Command Tanks may command

dismounted infantry and heavy weapon units. Ordinarily, tank and infantry MEs may not be combined in this way (in order to reflect the inherent difficulties in infantry/armour cooperation), but these three professional armies trained hard to do this in war, so it seems appropriate to make an exception in this instance.

Artillery Modifications

NATO Enhanced Call-For-Fire Ability

We already allow most NATO armies to call for fire support and air support using Commanders and Troops (see national Call-For-Fire Tables) (not yet published – sorry!). However, the fully-professional US, British and Canadian armies went even further, ensuring that all tank and recce crews were fully trained in fire support techniques.

1. US, British and Canadian tanks and reconnaissance vehicles may therefore call for Indirect Fire Support or Air Support, using the 'Troops' column on the Call-For-Fire Table. Use the 'Commander' column for ME command vehicles.
2. Combat support vehicles within such units (such as mortar carriers or ATGM vehicles) may not call for fire support.
3. If the vehicle has a dismountable element (e.g. Commander or dismountable infantry patrol or heavy weapon), the carrier vehicle itself may not call for fire, but the passengers may do so, using the normal rules.
4. This rule could also be extended to other NATO armies, but I would limit this rule only to command tanks and command recce vehicles.
5. Remember that whenever a unit calls for fire, it may not conduct any other voluntary action (e.g. movement or Offensive Fire) during that turn.

Counter-Battery Artillery Fire

The prime role of the Heavy, Long-Range and MRL artillery held by Corps/Army/Front artillery groups of virtually all nations is that of counter-battery (CB) fire. These artillery types may therefore be used to counter the opponent's artillery rather than engaging directly in the battle. To simulate CB fire, use this simplified artillery method:

1. Heavy, Long-Range and MRL batteries may be assigned to perform CB tasks before the start of the game. Once assigned to CB, the battery may not be reassigned to tactical fire support. Each player should make a note of which batteries in his order of battle are assigned to CB or tactical fire support. He should keep secret exactly how many batteries are at his disposal and whether they are armoured or softskinned/towed.
2. When an artillery battery fires (either in tactical fire support or on a CB mission), a player may engage that battery with whatever CB batteries he has at his disposal

(note that once they have fired, CB batteries may themselves become targets for enemy CB fire).

3. Roll a D10 for every CB gun/MRL firing. A roll of '10' will destroy a gun in the target battery. Randomly distribute multiple hits within the target battery, as if 2 hits are scored (for example) it's always possible that the same gun will take the same killing hit. Apply a -1 modifier if the target battery is armoured and a +1 modifier if the CB battery is firing Improved Conventional Munitions (ICM – cluster sub-munitions).
4. If the target battery fires again without changing position, apply a cumulative +1 CB modifier for every additional turn that the battery fires without changing position.
5. In order to change position, a self-propelled battery must stop firing for two turns. A towed battery must stop firing for three turns.
6. Note that these rules apply exclusively to off-table artillery and are kept deliberately simple, ignoring artillery calibre, range, etc. For countering on-board IDF fire such as mortars, simply use the normal spotting and combat rules – CB batteries may not be used to engage on-table batteries.

(Note that this can be a little bloody – an alternative is to roll one D10 for each CB battery firing, regardless of its strength)

Helicopters

Helicopter Types

Observation Helicopters (OHs)

These fill the role of air observation posts, carrying FOs and FACs, as well as seeking out targets for their Attack Helicopter brethren. They are also used for liaison – carrying a commander from point A to point B. In some cases, an OH might be able to carry slightly more men, which enables them to insert or extract small units. OHs can also be armed, enabling them to function as light attack helicopters when necessary (weaponry often comes at the expense of transport capacity due to weight or space considerations). OHs are often highly agile, which offers them a degree of protection compared to some other helicopters, as they are better able to dodge enemy fire and get out of trouble quickly.

Attack Helicopters (AHs)

These are arguably some of the most potent weapons on the modern battlefield – often armed to the teeth with guns, rockets and ATGMs, able to strike swiftly and withdraw just as quickly. They usually have a greater degree of protection than other helicopters – sometimes in the form of armour and sometimes in the form of defensive aids such as chaff, flares, threat detectors and IR baffles on the engine exhausts.

Utility Helicopters (UHs)

These are medium-weight helicopters, each able to carry roughly a squad of troops, or maybe an under-slung heavy weapon or small vehicle. They can also often carry weaponry; usually a door-gunner or two, though with some UHs serving double-duty as AHs when necessary. The Soviets in particular, believed in the concept of the 'Assault Transport', which was a combination of AH and UH, being able to soften up the Landing Zone (LZ) with fire, before landing troops and then hanging around to provide fire support.

Transport Helicopters (CHs)

These are large, heavy helicopters, designed to transport large numbers of men, heavy weapons and vehicles by air to the battlefield. Armament is minimal and often non-existent.

Where 'transport helicopters' are mentioned in the rules below, this can also be taken to mean OHs, UHs and AHs that are capable of carrying Troops.

Helicopter Mission Duration

1. Helicopters must either arrive on table according to a pre-determined, written schedule (e.g. "Turn 1 – OH arrives, Turn 2 – 2x AH arrive, Turn 3, 4x UHs arrive…"), or they must be called in by a FAC or Battlegroup Commander using the normal Tactical Air Support procedure.
2. Once on board, helicopters may 'loiter' on table for up to six turns. This may be extended by one turn to allow a
3. Any 'Suppression' inflicted by antiaircraft fire will force the helicopter to leave the table for one turn after completing its task for that turn. This turn spent flying involuntarily off the table counts against the available six turns of loiter-time. The helicopter will automatically recover its Suppression and will return to the table on the following turn without needing to call it in again.
4. Any 'Disorder' inflicted by antiaircraft fire will force the helicopter to return to base after completing its task for that turn. However, transports may alternatively crash-land onto the LZ (see Transport Helicopter rules below), counting as a KOd helicopter for VP purposes.

Helicopter Movement

1. Helicopters move during the Air Support Phase, simultaneously to all conventional air attacks.
2. Helicopters, being extremely vulnerable to all forms of antiaircraft fire, are normally assumed to be flying at 'Nap Of Earth' (NOE) – i.e. close to the ground. Areas of Woods, Built Up Sectors and terrain contours will therefore block line of sight to and from helicopters. In fact, it is probably easier to think of helicopters as being a very fast form of ground vehicle (albeit one that can skim over terrain features with no movement penalty.

3. The player owning the helicopter must trace its flight-path across the table. Unlike conventional aircraft, which must travel in straight lines, the helicopter's path may be as convoluted as you like, taking advantage of the terrain to mask its approach.
4. Alternatively, Observation Helicopters may climb to altitude in order to better observe the battlefield. Simply use the existing AOP rules. However, this would be suicidal in a high-intensity war and would really only be an option in a low-intensity war with a very favourable air situation.
5. Once all helicopter and aircraft movement is defined, the opposing player conducts his antiaircraft fire against those helicopters and aircraft, engaging them at any point along their defined flight-path. Note that Suppressed and Disordered helicopters may be engaged again as they attempt to fly off the table.
6. Helicopters will not fly through Indirect Fire templates,

Helicopter Weapons

Door-Gunners

UHs and CHs often have MGs mounted in the side doors or rear door, manned by a crewman. These are usually defensive weapons that can be used to suppress enemy defences during insertion and extraction operations. The unit card states which sides of the helicopter door guns are mounted on (left, right or rear) and each door gun has a 180-degree arc of fire, as for vehicle-mounted fixed weapons. As with vehicles carrying multiple weapons, only one target may be engaged in a turn. Door gunners have a ranged attack, as they are able to track targets despite the helicopter's movement. Note that helicopters are certainly not always fitted with door guns, or might have only one fitted. I leave this to the scenario-designer's discretion.

Fixed Machine Guns & Cannon

These weapons are handled using the 'Strafe' procedure exactly as laid down in the BF:WWII rulebook. Note that the heavy MG mounted on the chin turret of the Soviet Mi-24 'Hind' AH also comes under this category, as the Hind's turret has a very limited arc of fire.

Turret-mounted Machine Guns and Cannon

These weapons may conduct ranged attacks in the same manner as vehicle weapons and helicopter Door-Gunners (above), due to the fact that the gunner can actively aim the weapon and compensate for the movement of the aircraft. These are only found on a few specifically-designed attack helicopters (such as the Cobra, Apache, Rooivalk and Havoc). These weapons may engage targets within the front 180-degree arc, as for fixed vehicle weapons.

Rockets

These are dual-purpose; being used both for Tank-Busting attacks as per the BF: WWII rule book and for area effect using the 'Rocket' factors listed on the unit card (use the Horizontal Bombing procedure as per the rule book).

ATGMs

These are long-range weapons used against armoured vehicles or soft targets, using guided missiles.

Attacks By Helicopters

1. As with conventional aircraft attacks, the helicopter is moved, using the movement rules above, to the position from which it will launch the attack. In the case of Strafing, Rockets and Tank-Busting, this will be actually over the aiming point of the target. In the case of Door Gunners, Turret-mounted Guns and ATGMs, this will be at some distance from the target.
2. Once all helicopters and aircraft have been moved, antiaircraft fire is resolved as normal (though as discussed above, terrain features may block line of sight to helicopters).
3. Once antiaircraft fire has been resolved, the helicopter resolves its attack using the normal Air Support rules, modified by the Helicopter Weapons rules above.
4. The biggest difference between attacks by helicopters and attacks by fixed-wing aircraft, is that helicopters must attack the armour aspect presented by the target (i.e. front armour or flank armour), whereas fixed-wing aircraft always attack the flank armour. This is because in a high-intensity war, helicopters, being highly vulnerable to antiaircraft weapons, will almost always be attacking from 'nap of earth': i.e. at a very low angle, with the helicopter flying within 100 feet of the ground. This means that ATGM attacks against front armour will be affected by any Reactive or Chobham armour fitted to the target vehicle.

Transport Helicopters – Landing and Disembarking Transported Units

1. In this section the term 'Transport Helicopter' refers to any helicopter that is capable of transporting ground units, irrespective of whether their designation is OH, UH, AH or CH.
2. A transport helicopter may land in order to disembark or embark troops. Landed helicopters should be indicated by use of a suitable marker.
3. In order to land a helicopter, simply move the helicopter (using the method described above), to the point at which it is to land. Resolve Antiaircraft fire as normal. Any units on board helicopters that are KOd by antiaircraft fire will be automatically lost – there is no Bail Out roll in this instance.

4. After resolving antiaircraft fire, transport helicopters may conduct fire from Door Gunners against Spotted or Suspected targets (see above).
5. Once door gunner fire has been resolved, troops may immediately disembark (during the Air Support phase): Disembarking units must roll on the 'Bail Out' table if the helicopter has been subject to ANY antiaircraft fire (even if no effect was caused on the helicopter), applying the appropriate modifiers. Units that successfully disembark may move 1 inch (as for troops disembarking from transport vehicles).
6. Remember that any Disordered helicopters that choose to land are assumed to have crash-landed onto the LZ and may not take off again during the game.
7. The disembarked units may move up to 1 action in the following Manoeuvre Phase or may conduct Offensive Fire, Overwatch, Improve Position, etc. They may not conduct a Rapid Advance.
8. Landed helicopters may be engaged by enemy fire as Soft Vehicles.
9. Landed helicopters may be subject to Close Combat assault and have a CC value of 0 against both Troops and Vehicles.
10. Landed Helicopters with Door Gunners may fire during their Defensive/Opportunity Fire phases, but not during Offensive Fire.

Transport Helicopters – Embarking Units and Tanking Off

1. During the friendly Air Support Phase, a helicopter may load any transportable Troop units that are within 1 inch and take off.
2. Any Gun or Vehicle unit to be transported must use a 'Load' action during the previous Manoeuvre phase. Loaded Vehicles and Guns will automatically be lost if the helicopter is KOd on the ground.
3. Once a helicopter has taken off, it may fly off-table or to an on-table 'holding position', or it may not land again during the same turn (go back to the Landing sequence listed above, but this time, the disembarked units may not conduct any actions after landing).
4. The helicopter will once again be subject to Antiaircraft Fire during this operation. If the helicopter is driven off-table, any transported units will still have to roll on the Bail-Out table when they disembark, even if a Suppressed helicopter loses its Suppression.

Enhanced Optics On Helicopters

Some OHs have enhanced optics, usually associated with mast-mounted sights: Helicopters with Enhanced Optics (EO) listed on their unit card gain an additional +1 spotting modifier.

Ripple-Fired ATGMs From Helicopters

Some laser-guided ATGMs (only the Hellfire ATGM during the 1980s) may be ripple-fired. In reality this means that a 'flight' of missiles is fired by the attack helicopter at intervals of a few seconds. When the first target is destroyed, the gunner switches to the second target, then the next, and the next and so on. In this manner, a whole column or formation of armoured vehicles can be destroyed in a matter of seconds, with several missiles in the air simultaneously, even before the first strikes home.

1. An Attack Helicopter (i.e. only the Apache and Super Cobra during the 1980s) with Ripple Fire capability may fire up to all its ATGMs in a single Air Support phase against a group of targets.
2. The group of targets must be grouped within a circle no bigger than 10 inches in diameter.
3. Ripple-fired ATGMs suffer a -1 modifier on their listed attack factor due to the complexity of the operation and workload on the helicopter's gunner.
4. Ripple-fired ATGM attacks may be resolved sequentially, with any Disorder effect being applied to the next missile attack on that vehicle. If a vehicle is destroyed, the next vehicle in the group may be targetted.

Modern Aircraft Weapons

Modern Aircraft Weapon Loads

Modern aircraft often have a very high weapons payload compared to their WW2 equivalents. This permits a wide combination of weapons to be carried on the same aircraft; from 'dumb' bombs, to cluster-bombs, gun pods, rocket pods and guided munitions, such as Laser-Guided Bombs (LGBs) and Air-to-Ground Missiles (AGMs). It also permits a tactical support aircraft to carry out several different strikes in the same mission. By contrast, WW2 aircraft would normally only carry one type of weapon and would normally deliver the whole payload in a single pass.

Modern aircraft therefore, may often make more than one attack after their initial attack. This capability is listed on the aircraft's unit card and is carried out in a manner similar to Strafing in the published rules:

1. The aircraft's initial attack is called in by a FAC or other unit type, as per the national 'Call For Fire' table, using exactly the procedure described in the published rulebook.
2. If more than one main weapon attack is listed on the card, the aircraft may return to make a further attack/attacks in successive Close Air Support phases. These subsequent attacks need not be called in, but may be made against any Spotted enemy on the table.
3. Alternatively, all ordnance may be expended in one pass, either by 'concentration' of the templates as per the artillery rules (i.e. by applying a +1 modifier to the bomb/rocket template), or by laying the second (and possibly third) template adjacent to the first template, along the line of flight, to create a long, narrow, 'stick' pattern. Note that the intention to expend all ordnance in the first pass must be declared BEFORE Antiaircraft fire is resolved (it is a 'gamey' tactic to suddenly decide to expend all ordnance once the aircraft receives a Disorder and is driven off (see rule 5 below).
4. Once all ordnance has been expended, a Strafing attack may then be made on any Spotted enemy. Note however, that unlike WW2, not all modern aircraft have guns (though some may be fitted with gun pods in lieu of other ordnance).
5. Any Disorder effect caused by Antiaircraft fire will prevent the aircraft from returning for further attacks (i.e. it is damaged and will return to base). It will complete its pass (applying the Disorder modifier), but will not return. It will not count as a loss for scenario VP purposes.
6. Any Suppression effect will only last for that pass. The aircraft may return for further passes without effect.

Toss-bombing

1.This 'lofting' technique was developed by the RAF and was later adopted by many other air forces - used in conjunction with laser-guided bombs it became a deadly weapon of Coalition forces during the First Gulf War. The technique was also used highly effectively with 'dumb' bombs by SAAF squadrons operating Mirage F1 AZ aircraft during the latter stages of the Bush War in Angola. The technique requires very specialised bombsights and training, but a skilled crew can accurately place an unguided bomb within a 100m circle from over 5km away. (Note that aircraft using intermediate-range weapons such as Laser-Guided Bombs and Air-to-Ground Missiles such as the Maverick could also use much the same rules – this will be expanded upon in the near future).
The advantages of Toss-Bombing are:

1. It greatly reduces the risk to aircraft from dense SAM/AAA defences.
2. It can be delivered from a low altitude, thus reducing exposure to the enemy radar umbrella and associated air defence fighters.

The disadvantages are

1. It requires very specialist equipment and training to do with any semblance of accuracy
2. It is rarely as accurate as conventional bombing (unless using LGBs).

Toss-bombing Rules

1. Toss-Bombing (or 'Lofting') is called in during the Close Air Support Phase, though the aircraft never appears on the table. Using special ballistic bombsights, the aircraft 'lofts' the bombs several kilometres from the target. It can therefore be thought of as air-delivered artillery fire.
2. SAM units with a range greater than 100 inches are the only units that may engage aircraft engaging in Toss-bombing, so only these units may conduct anti-aircraft fire before resolving the Toss-Bombing attack.
3. An aircraft engaging in Toss-Bombing may only launch one single attack (delivering all its bombs in one go from long range and then scooting back to safety at low level and high speed). It may not launch a second attack and may not return for a strafing run.

Laser-Guided Bombs & Air-To-Ground Missiles