WEAPONS OF THE VIRGINIA WAR UNIVERSE

MISSILE SYSTEMS

SRM, LRM racks

One of the lightest, most compact ways to give even the smallest battlefield platforms anti-armour capability, missiles are one of the most common weapons in the modern arsenal. Effectively a rocket carrying a semi-smart guidance system and a payload of high-explosives, a missile's warhead damages armour through a combination of blast and the Munroe effect; however, while shaped charges can burn deep into (or through) many older forms of armour, they are markedly less effective against modern semi-ablative laminates.

During the rise of the Terran Hegemony and the wide dispersal of BattleMech technology, a major instinct of the military mindset – standardization of components and munitions – was applied to the myriad of missile-systems previously in place. The standard eventually chosen was a forty-five-kilogram semi-guided free-flight rocket with either of two internal arrangements. The short-range loadout mounted a 'diamond-five' of heavy warheads, allowing the missile to deliver a hefty punch. Initially, the LRM used a similar arrangement, obtaining longer range by carrying lighter warheads and using the freed mass/cubage for more fuel for the sustainer-motor; however, as the new standard of BattleMech-grade armour proliferated, the 'scatterpack' system (although still retained for some applications) was increasingly sidelined in favour of a unitary warhead that provided more direct punch. LRMs were typically carried in a five-cell box-launcher, each cell being 'quad-packed' to hold four missiles; similarly, SRMs were often packed into four-cell arrangements, each holding a 'diamond-five' set of SRMs; however, versions of either missile-system based on a rotating drum-launcher or tube-launchers supplied by linkless or pneumatic feeds were not uncommon.

Observation of these systems in action with the THAF led to their imitation by the Great Houses and other powers, and soon all of human-occupied space had adopted these standardized missiles.

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SRM/1: 1 critical slot,  1 ton,  2 heat, 20 shots/ton
SRM/2: 1 critical slot,  2 tons, 3 heat, 10 shots/ton
SRM/3: 2 critical slots, 3 tons, 4 heat,  6 shots/ton*

LRM/1: 1 critical slot,   2 tons, 2 heat, 20 shots/ton, range [3] 7/14/21
LRM/2: 2 critical slots,  5 tons, 3 heat, 10 shots/ton, range [3] 7/14/21
LRM/3: 3 critical slots,  7 tons, 4 heat,  6 shots/ton*, range [3] 7/14/21
LRM/4: 5 critical slots, 10 tons, 5 heat,  5 shots/ton, range [3] 7/14/21

With these exceptions, all construction and gameplay stats are as canon.
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COMBAT RULES:

Each missile-launcher resolves to-hit rolls as normal for tabletop BattleTech play; however, for launchers other than SRM/1s and LRM/1s, the Margin of Success (or Margin of Failure) for each to-hit roll should be noted. Multiple-missile launchers tend to spread their fire somewhat, and thus determine the number of missiles which hit by making a Cluster Hits roll on the appropriate column, modified by the MoS/MoF of the to-hit roll; modified Cluster Hits rolls of 2 or less mean no hits were scored.

For each LRM which connects with the target unit, roll a hit-location and centre-point, then apply the template for the appropriate warhead-type. LRM/S warheads are handled as per *Renegade Tech*, p.12; LRM/U warheads are treated as a single weapons-strike and do not 'seep'.

For each SRM which connects, make another Cluster Hits roll on the '5' column (representing the number of sub-munitions which strike the target), then roll that many individual hit-locations and centre-points and apply the 'SRM-warhead' template for each.

If detonated within a unit by overheat or damage, each missile (no matter its range-profile or warhead type) causes 10 points of damage (200 points per full ton of missiles!).

CONVERSION NOTES:

This paradigm assumes that Artemis-IV is essentially a form of semi-active radar-guidance (similar to Semi-Guided LRMs under TW rules). Units mounting Artemis should treat the system(s) like a TAG unit for the purposes of achieving a 'target-lock', using the range-profiles below. To avoid fratricide or misguidance problems, each unit's Artemis is encoded to be peculiar to that unit's fire-control system; therefore, a given unit's Artemis lock-on(s) cannot benefit the missiles of any other unit engaging that target. ECM inhibits the function of Artemis as normal under the rules found in *Total Warfare* and *Tactical Operations*.

Under this paradigm, a single Artemis lock provides a -2 TH bonus for the illuminating unit's missiles (with the attendant effect on its MoS/MoF and the Cluster Hits roll). Only one lock-on is necessary for all of the unit's launchers (whatever their own range profile) to receive the primary benefit of Artemis guidance, but if a unit successfully locks a second Artemis system on a given target, the improved precision of the fire-control solution allows the unit's player to alter the placement of his missile-damage templates by +/-1 column, as per *Renegade Tech*, p.25. Locking three or more Artemis systems onto a single target provides no gameplay effect.

(Some powers deploy 'primitive' Artemis-IV systems. These provide a -1 TH bonus for the first successful lock-on and a -2 TH bonus for a second lock, with three or more locks having no additional effect.)

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Artemis-IV guidance system: damage -, ranges [0] 15/30/- (otherwise as canon)
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Similarly, NARC beacons provide a -2 TH bonus for Narc-guided missiles, with the concomitant effect on their MoS/MoF and the Cluster Hits roll.

Semi-guided missiles function as per standard TW rules (a successful TAG 'attack' negates the Target Movement Modifier), with hit resolution handled under the standard Renegade Tech paradigm.

Streak SRMs

A modified SRM system intended for even more concentrated punch, the SSRM possesses a 'shoot-on-lock' capability which also greatly increases ammunition efficiency and ameliorates heat-burden. While the SLDF only developed the system as far as applying it to the SRM/1, and the Successor States have so far not duplicated the system at all, engineers in the Outworlds Alliance have successfully expanded the system into an SSRM/2 launcher and are working on a prototype SSRM/3.

Each Streak launcher resolves to-hit rolls as normal for tabletop BattleTech play; however, the Margin of Success (or Margin of Failure) for the to-hit roll should be noted. Multiple-missile Streak launchers determine the number of missiles which hit by making a Cluster Hits roll on the appropriate column (modified by the MoS/MoF of the to-hit roll).

The Margin of Success (or Failure) of the to-hit roll is applied to the Cluster Hits roll for the launcher's salvo-size, and the result is the number of missiles actually fired; the other missiles in that salvo are deemed not to have attained a target-lock and are not launched. For heat-tracking purposes, use the modified Cluster Hits result as the size of the SRM-salvo launched. Point-defence fire is resolved against the number of missiles *actually launched*, not the launcher's 'nominal' salvo-size. Once PD fire has been resolved, roll a *single* hit-location for each Streak SRM which connects, then roll five centre-points on that location and apply the SRM templates accordingly.

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SSRM/1: 1 critical slot,  1.5 tons, 2 heat, 20 missiles/ton (otherwise as canon)
SSRM/2: 1 critical slot,  3 tons,   3 heat, 20 missiles/ton (otherwise as canon)
SSRM/3: 2 critical slots, 4.5 tons, 4 heat, 20 missiles/ton (otherwise as canon)
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The nature of 'shoot-on-lock' missile-systems makes it highly likely that any unit carrying them will fire 'part-salvoes' at some point during combat. Therefore, a unit mounting Streak missile-launchers *always* tracks the number of *missiles* remaining.

Grenade Launcher, Vehicular

Originally used for anti-infantry frag grenades or simple smoke-rounds, the VGL has continued to be deployed partly because of the plethora of alternate munitions which were invented to meet evolving battlefield conditions. Many combat units (including BattleMechs) mount VGLs loaded with Chaff or Smoke grenades in lieu of full-scale ECM suites.

COMBAT RULES

VGLs are six-shot weapons, and may mount grenades within those six shots in any combination the player sees fit. A given VGL may deploy only one kind of grenade in a turn, but may deploy multiple grenades of that type if the player so chooses. Otherwise, VGLs comply with their standard rules as found in *Tactical Operations*, p.315.

Rocket Launcher, Vehicular

A technology used throughout human space, the vehicular rocket launcher (VRL) is abysmally crude to the eyes of 'first-line' militaries like those of the Inner Sphere, but remains popular on worlds (and with population sub-groups) who need a weapon that can defeat modern armour but lack access to more sophisticated systems. Produced by limited technical bases, the rockets themselves are at best indifferently accurate, as they lack even the most basic guidance systems beyond simple stabiliser fins and 'point-and-shoot' iron-sights, and their warheads usually little more than fifteen-kilogram blocks of the archaic trinitrotoluene, lacking the punch of modern superdense compounds. The intention behind the system is simple: throw huge numbers of warheads at a target in the hope that enough will hit to destroy or cripple it.

In the Inner Sphere and amongst the Clans, VRLs are popular primarily as cheap air-to-ground attrition weapons; front-line forces generally regard these weapons as 'half a step away from using spears and stone axes', so they had not found favour as a 'Mech or vehicle armament in the years prior to the Amaris Coup. However, in light of the savagery of the (First) Succession War and the unexpected deadliness of the modern battlefield, several forces are experimenting with mounting VRLs on some lighter 'Mechs and hovertanks (usually in place of machine-guns or light SRM racks) to supplement their short-term firepower in the raider/harasser roles. Favoured platforms for these trial-programmes include the *Flea*, *Locust*, *Stinger*, *Wasp*, *Hornet*, and J. Edgar hovertank.

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VRL/4/3: 1 critical slot, 1 ton, 2 heat, 4 shots (12 rockets total)
VRL/OS/10: 1 critical slot, 1 ton, 5 heat, one-shot (10 rockets)
Rocket: damage (BT) 4/rocket, ranges [0] 3/8/15
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These stats replace the canonical RL/10, RL/15, and RL/20, as well as all MRM systems. 'Primitive' VRLs exist, suffering from the canonical -1 Cluster Hits penalty.

COMBAT RULES:

Vehicular rocket launchers are identified by the number of salvos they hold and how many rockets they fire in a salvo; the most typical examples known across inhabited space are the VRL/4/3 and the VRL/OS/10.

A standalone box-launcher assembly, a VRL/4/3 consists of three cells (each holding four unguided rockets) and is designed to ripple-fire one rocket from each cell in every salvo. Launches are handled as a missile attack at a +1 TH penalty, with a Cluster Hits roll on the '3' column (modified by the attack roll's Margin of Success/Failure, as normal under these rules) determining the number of hits; each hit's location and centre-point is then resolved, applying the 'Rocket' template above. Each VRL/4/3 may fire up to four salvos in a scenario.

Also a standalone box-launcher assembly, a VRL/OS/10 houses only ten rockets (owing to additional interface hardware) but fires them all in a single salvo. Launches are handled as a missile attack at a +1 TH penalty, with a Cluster Hits roll on the '10' column (modified by the attack roll's Margin of Success/Failure, as normal under these rules) determining the number of hits; each hit's location and centre-point is then resolved, applying the 'Rocket' template above. Owing to their speed and the limited time-on-target available in an attack pass, one-shots are the only kind of rocket-launcher that can be used as external ordnance on aerospace units such as VTOLs, conventional fighters and aerospace fighters.

If a VRL is detonated within a unit by a critical hit, each remaining rocket causes 5 points of damage (60 points for a full VRL/4/3, or 50 points for a VRL/OS/10). VRLs are *not* subject to heat-enforced 'Ammunition Explosion' checks.

The +1 TH penalty results from the VRL's lack of guidance systems on either launcher or rockets. This prevents VRLs from benefiting from sophisticated guidance techniques like TAG, Narc and Artemis; conversely, it also renders VRL salvos immune to the fire-confusion effects of chaff and ECM Ghost Targets (*Tactical Operations*, p101).

Any 'Mech or vehicle armed with VRLs must designate before the start of play whether each launcher is a VRL/4/3 or a VRL/OS/10; although launchers can be switched out between scenarios, this may not be done during battle unless the unit expends its entire load of rockets and reloads during play (*Tactical Operations*, p.213, 'Rearming under Fire'). VRLs of either type may be designated as armed with Fragmentation or Smoke warheads at the start of a scenario, but a given VRL may only load one type of warhead.

OPTIONAL RULES FOR LRM/3s and SRM/3s:

Simple maths shows that these launchers do not make the best use of their ammunition volume, leaving two missiles out of a twenty-shot 'pack' unused by dint of their salvo-size. The default assumption is that these two 'spare' missiles-per-ton go unloaded and unused, but by agreement between players before a game, they may be deemed to be accessible; when the remainder of the ton of ammunition has been expended, these two 'spare' missiles may be fired as if they were a two-missile salvo of the appropriate type (LRM/2 or SRM/2), including heat incurred by the firing unit. These missiles must be of the same guidance- and warhead-type as the other missiles they are stored with.

For the sake of simplicity, a unit equipped with SRM/3s or LRM/3s and mounting multiple tons of ammunition handles each ton of ammunition separately for the purposes of determining 'spare' rounds and 'undersized salvoes'. However, subject to the agreement of all players prior to the start of a game, ammunition may be tracked as '20 missiles per ton', rather than as 'X salvoes-per-ton', allowing LRM/3s and SRM/3s to slightly expand their ammunition endurance.

BALLISTIC SYSTEMS

Autocannons and Machine-guns

Almost as soon as the first armoured vehicles appeared on the modern battlefield, opponents were using field-guns against them. Though their construction and rates-of-fire have changed radically since those early days, the principle remains the same: the ignition of chemical propellants drive projectiles down the weapon's barrel and down-range at significant velocity, causing damage through their kinetic energy. Although more efficient systems for penetrating armour have been fielded in the intervening centuries – particularly the electro-magnetic mass drivers known as 'gauss rifles' – autocannons remain popular for many reasons, not the least of them being the lower standard of technology required to manufacture and support them, as well as the ability to use alternate forms of ammunition for dealing with targets other than armoured vehicles.

(Many observers find a certain perverse cosmic humour in the continued efficacy of autocannon as anti-armour weapons. It was widely believed that the proliferation of practical battlefield energy-weapons, with their nominally line-of-sight ranges and freedom from ammunition constraints, would render ballistic weapons obsolescent; instead, they remain viable against modern semi-ablative armour precisely *because* that armour is optimized to mitigate the effects of energy-weapons, and thus is eroded most efficiently by the application of large-calibre kinetic-energy or HEDP rounds.)

All known nations use both the standard and the light machine-gun – the former for all-purpose work, the latter for situations where range-performance is preferred and the ability to damage modern armour may be less important, if not outright counterproductive.

COMBAT RULES

Standard autocannons firing Armour-Piercing ammunition use the standard template, but these hits can also inflict critical hits as per *Total Warfare*, p.140; once the number of critical hits has been determined, apply them according to *Renegade Tech*, p.14, 'Critical Locations - Optional Rule'. Flak rounds use the standard damage template and rules per *Total Warfare* p.114. Flak and Flechette rounds apply the AC's full rated damage to infantry, per *Total Warfare* p.141 and *Renegade Tech* p.22. Precision rounds use the standard damage template and rules per *Total Warfare* p.142.

Specialised autocannons which use the Cluster Hits table – rapid-fire autocannons like Ultra and Rotary autocannons, and LB-X autocannons firing cluster rounds – should record the Margin of Success (or Failure) from their To-Hit roll and apply it to a Cluster Hits roll on the appropriate column. Modified results of less than two (2) indicate an outright miss; otherwise, hit-locations and centre-points should be rolled for each hit and the appropriate damage-template applied.

Light machine-guns do damage to armour according to their entry in *Renegade Tech*, p.11.

Mass-driver weapons

Whereas conventional autocannons use chemical propellants, mass-drivers (also known as Gauss rifles) fire their projectile through the use of electro-magnets, either as rails at the breech or as a series of sequentially-activated coils along the barrel-assembly. (Unsurprisingly, these principles have led to these weapons being commonly known as 'rail guns' or 'coil guns'.) The EM-acceleration system requires the use of nickel-iron projectiles, often mined from asteroids, and imparts kinetic-energies that give the projectiles fearsome armour-penetration capabilities; however, the projectiles are inherently inert, meaning that while storing Gauss ammunition is far less hazardous than storage of autocannon munitions, Gauss weapons are so overly-specialised as anti-armour weapons as to fare very poorly in other tactical roles. Furthermore, the energies required for such muzzle-velocities mean that damage to the charged capacitors of a Gauss weapon invariably results in an explosion that can cripple the parent platform.

Gauss Rifle: ammo 144/ton (otherwise as canon)

Single-shot tank guns ('Rifle (Cannon)')

The high-velocity anti-tank guns used by some worlds are far behind the Inner Sphere's accepted state-of-the-art, and even with modern armour's acknowledged limitations against simple kinetic-energy weapons, describing the efficacy of such weapons as 'limited' would be an act of charity. Nonetheless, deployed in sufficient numbers and manned by troops with stout hearts, they can be a threat to even the heaviest BattleMech. The 'Light Rifle' template shown below represents a typical high-velocity tank-gun in the 80-110mm class, typically found on scout vehicles, tank-destroyers, and older tanks; 'Medium' weapons are typically smoothbore weapons on the order of 110mm-140mm; some of the most massive 'Heavy Rifles' can reach 180mm or slightly more.

These weapons generally employ three forms of shell: armour-piercing, high-explosive, and anti-personnel fragmentation. The templates below are applied to AP and HE rounds; FRAG rounds apply double base damage to infantry, but cannot harm vehicles with modern armour.

Against armour with a BAR rating of 8 or more, Rifles use the next smallest template (Heavy Rifles use the Medium templates, Mediums use the Light templates, Light Rifles use the MG template).

Light Rifle (Cannon): ranges [0] 4/8/12, ammo 36 (otherwise as canon)
Medium Rifle (Cannon): ranges [0] 5/10/15, ammo 18 (otherwise as canon)
Heavy Rifle (Cannon): ranges [0] 6/12/18, ammo 9 (otherwise as canon)

ENERGY WEAPONS

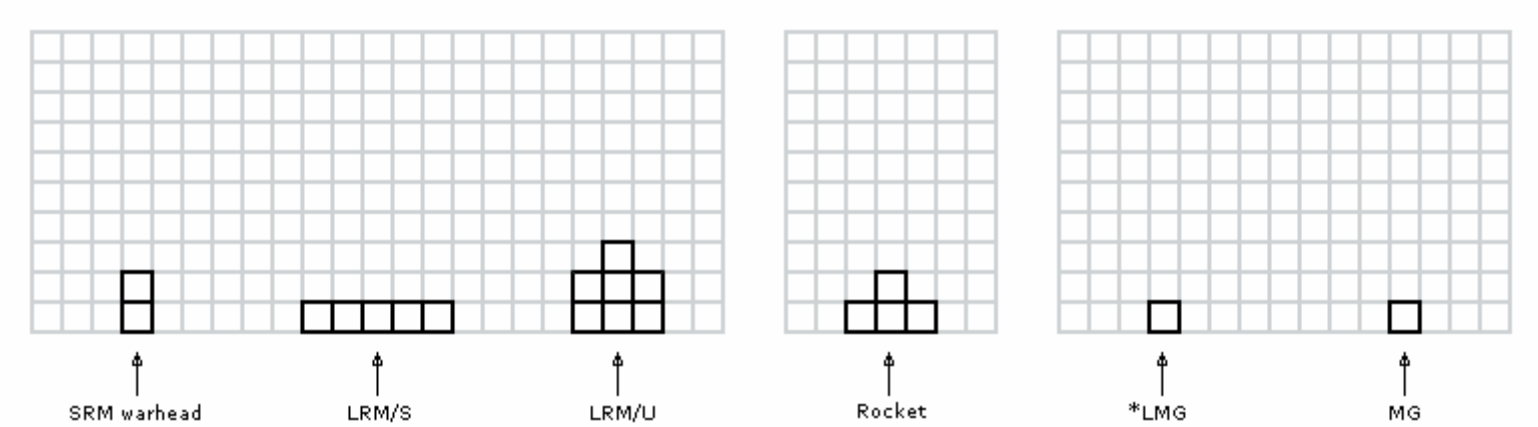
Lasers

Workhorse weapons of almost every BattleMech and aerospace fighter in existence for their light weight and lack of ammunition requirements, lasers are nonetheless rather less than ideal equipment with which to tackle modern armour. Despite popular misconceptions, lasers do not 'melt' modern armour or structural materials, as the energies they deliver are too massive and arrive too quickly for mere 'melting' to take place, and they certainly do not melt 'holes' into that armour. Instead, lasers superheat their point-of-impact with the target material(s) to the point of sublimation or outright flash-conversion into plasma, causing a localized explosion and secondary thermal-shock effects that shatter the surrounding material. Modern semi-ablative armour-laminates are specifically designed to deal with laser-strikes by simply shedding the compromised layer(s), meaning that for all their popularity with logisticians and the makers of visual fiction, laser weapons generally lack 'knock-out punch' against intact armour.

'Pulse' lasers contain a series of smaller lasing assemblies and discharge them in sequence, creating a weapon whose effects more resemble a 'sustained-discharge' laser-beam that 'slashes' across a target, rather than the 'stuttering line' effect suggested by the popular misnomer. These weapons were intended partly as a means of increasing the armour-penetrating efficacy of normal lasers, and succeeded in that effort at the price of increased weight and decreased effective range.

Particle-beam weapons

The operational realities of particle beam weapons are a closer match to the general public's perception of the damage-mechanism of 'laser' weapons than are actual battlefield lasers. Their combination of thermal energy and kinetic impact means that particle-beams offer highly efficient penetration of target materials, as the bolt of charged particles both 'burns' and 'bores' a path deep into even modern armour laminates.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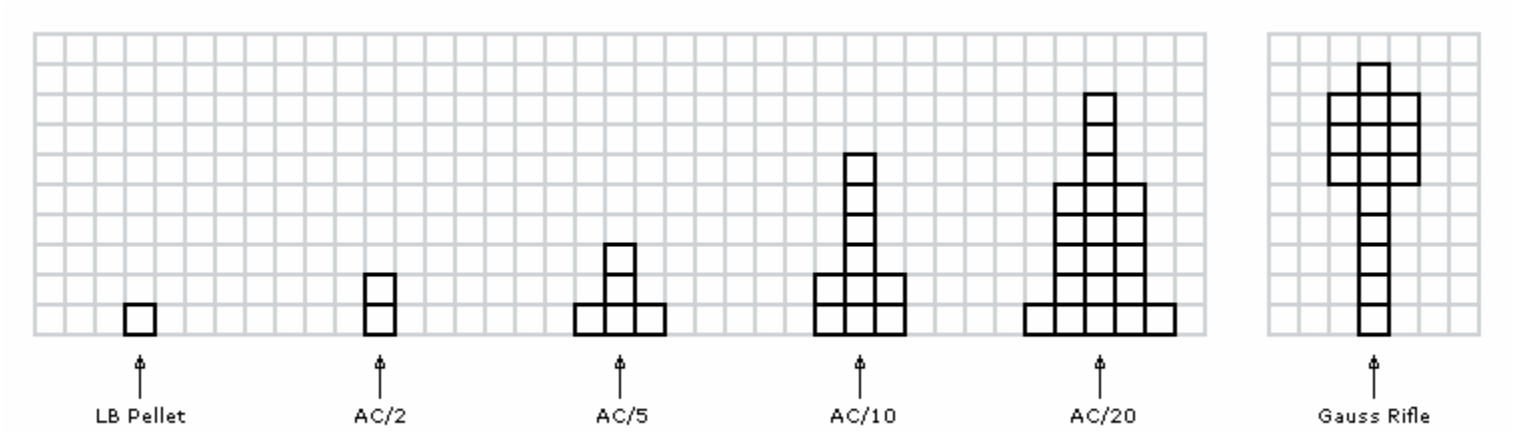
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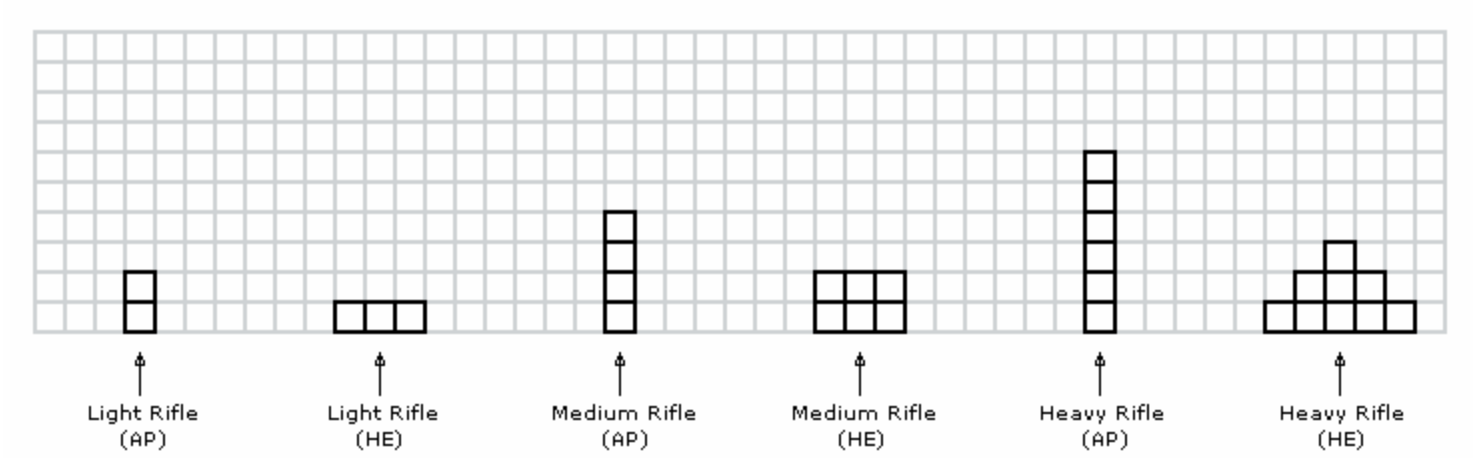
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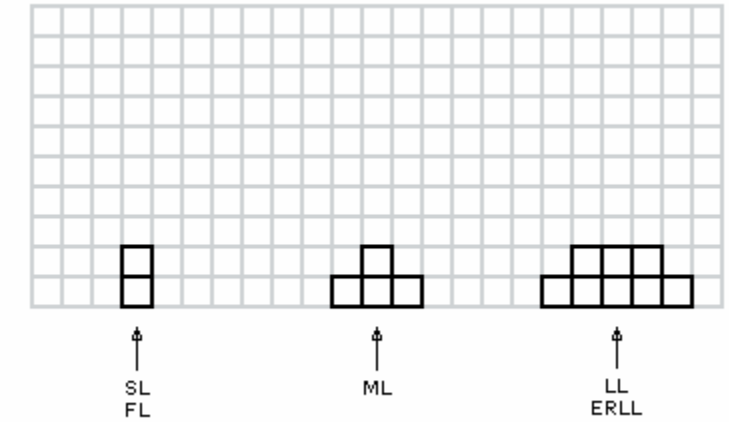
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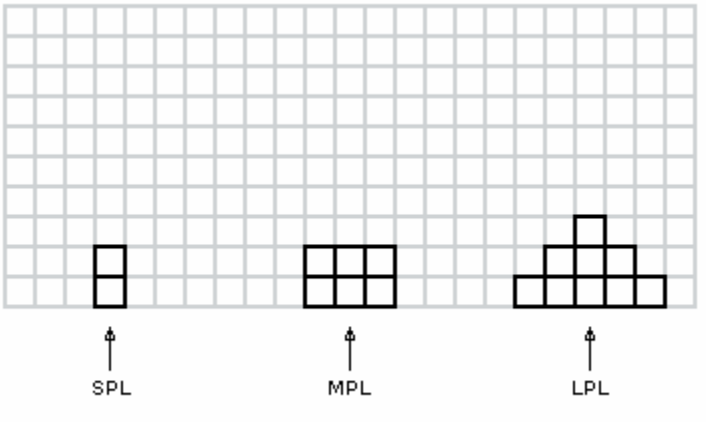
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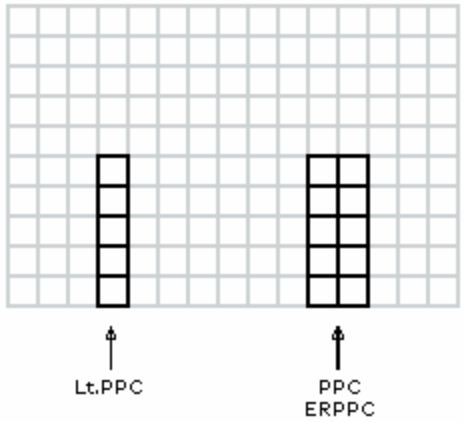
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