



## THE MvM PROPOSAL

SOME BALANCE INSIGHT BY AN EXTREMELY DEDICATED PLAYER

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### GENERAL CHANGES

- THERE IS A MAJOR OVERSIGHT IN THE NEXTBOT VISION CODE, IN WHICH PLAYERS ARE ABLE TO EXPLOIT TO BECOME COMPLETELY INVISIBLE TO BOTS

<https://github.com/ValveSoftware/source-sdk-2013/pull/1270>

- THERE IS A BUG WITH THE MONEY COLLECTION ADDITION IN THE MAY 12, 2025 PATCH, IN WHICH MONEY IS INCORRECTLY COLLECTED DUE TO THE CODE CHECKING FOR THE BOUNDING BOX OF GROUPED FUNC\_RESPAWNROOMS

<https://github.com/ValveSoftware/source-sdk-2013/pull/1307>

- THERE IS A BUG WITH THE ITEM HANDLING AI OF BOTS, AND OFTEN CAUSES THEM TO STAY IN THEIR SPAWN AND SOFTLOCK THE GAME

<https://github.com/ValveSoftware/source-sdk-2013/pull/1365>

- THERE IS AN ODDITY WITH FLAMETHROWER DAMAGE ON TANK CAUSING DIFFERENT RESULTS DEPENDING ON FLAME DIRECTION

<https://github.com/ValveSoftware/source-sdk-2013/pull/931>

- PLEASE CONSIDER COMMENTING OUT THE ROMEVISION SYSTEM, AS IT HAS GLARING FLAWS IN ITS IMPLEMENTATION

Regardless of whether players choose to enable it or not, the romevision system is a serverside hog that has greatly taxed the MvM populator system by tasking hundreds of hidden cosmetics and causing **significant performance loss** aswell as general lag spikes on any bot spawn. In addition, the equip regions cause conflicts with standard cosmetics applied on bots. Romevision is an **extremely unoptimized burden** to Mann vs Machine and is the leading cause of many indirect issues for essentially no benefit.



- THE UPGRADE STATION HAS A BUILT-IN SYSTEM THAT REDUCES UPGRADE EFFECTIVENESS OF AN ITEM THAT ALREADY STARTS WITH SAID UPGRADE AND THIS CAUSES PROBLEMS



This means weapons can never go above a **+100% bonus**, even losing out some power on a uneven number (such as starting with 20% but ticks increment with +25% which means 95% cap). This is a problem for many reasons; this system is responsible for an exploit involving the bypass of this limiter (using uneven numbers) and refunding these illegal upgrades into infinite money. This system is thoroughly inconsistent because alot of weapons use differently-named upgrades that achieve the same result (for example, **Jag's swing speed**, **Quick-Fix's heal bonus**, **Beggar's Bazooka's firing speed**) but won't be picked up by this system, allowing a stack that would normally not be possible. This system not only fails to achieve any real purpose, not only causes exploits, but is also genuinely unfair to weapon balance. For example, a **Direct Hit** with **+125% damage** would still have next to no splash damage and cause no imbalance this way. This system must be removed entirely.

**- IN MANN-UP, PLAYER TOUR COUNT SHOULD BE HIDDEN FROM THE SCOREBOARD AND +INSPECT SHOULD BE UNRESTRICTED AGAIN**

|                                                                                     | Tour                                                                                | Score | Damage  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|---------|
|  |  | 796   | 44,833  |
|  |  | 1,407 | 123,858 |
|  |  | 629   | 31,133  |
|  |  | 912   | 13,149  |
|  |  | 718   | 31,292  |
|  |  | 747   | 12,585  |

The main factor for "toxicity" in Mann-Up is the process in which players are able to tell the "worth" of a player by a quick glance at the tour count in the scoreboard. Judgments are instantly issued the moment people peer at the tour count number, **regardless if the**

**person is given a chance or not.** Hiding these numbers would go a very long way into reducing online arguments, and as an extra bonus the +inspect restrictions added in on the **June 22th 2021** update should be undone, as this affects community servers just the same and is generally a unwanted restrictions. Planning around the strengths and weaknesses of your teammates was always a fundamental part of MvM which inspection lets us do best.

### **- CANTEEN PRICES NEED A REVISION**

**Canteens** are gamebreakingly overpowered and anyone who does not use them is actively bringing the team down.



**Canteens** allow a single player to handle the burden of multiple people meant to coordinate together, for negligible cost.

**Recommending these new prices:**

- **Critical Canteen** increased from 100\$ to 200\$
- **Ubercharge Canteen** increased from 75\$ to 200\$
- **Building Canteen** **no longer heals buildings**
- **Ammo Refill Canteen** increased from 25\$ to 50\$
- **Teleport Canteen** increased from 10\$ to 25\$
- **Critical canteens** allow a single player to destroy one to multiple giants at once and considerably damage tanks with extreme ease. This canteen makes what should be the burden of 6 players trivial and sees its price reflected as such.
- **Ubercharge canteens** is effectively just as potent as a critical canteen in the hands of certain classes that do not suffer from reloads, such as heavy, pyro and spy. All danger, risk and mistakes are nullified by this canteen. Increased price to match that of the critical canteen.

- **Building canteens** is effectively the engineer's "best" canteen comparable to critical/ubercharge in strength and usefulness. The unbalance here mostly comes from the free health replenish, which still works even if your sentry is already fully upgraded. This, combined with the **Wrangler**, grants an abnormal amount of health which robots will never be able to break through.

- Slightly increased **Ammo Refill canteens** price due to its power when paired with external help (medic). **In addition, Ammo Refill should now restore an engineer's sentrygun ammo.**

- Slightly increased **Teleport canteens** price given it is essentially a free instant respawn against certain-death situations.

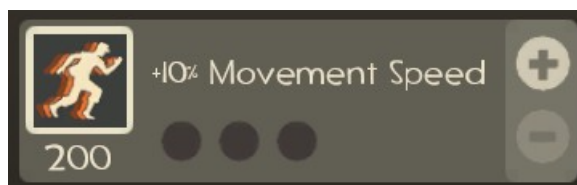
- **PLAYERS SHOULD BE FREE TO CHOOSE DIVERSE CANTEEN TYPES AT ONCE, RESPECTIVELY IN THE ORDER IN WHICH THEY ARE BOUGHT**

- **JUMP HEIGHT REQUIRES A REVISION**

**Jump Height** is absurdly powerful for such a tiny cost, and exploits nextbot's inability to lead airborne targets.



As there is no penalty for constantly jumping around in TF2, this essentially lets most classes avoid huge enemy firepower at a negligible cost. I suggest making **Jump Height** consistent with the **Movement Speed** upgrade (**+10%** at **200\$** for **3 ticks**).



**- ADD THE FOLLOWING PENALTY TO REVIVED PLAYERS; SPAWN WITH NO LOADED AMMO, NO RESERVE AMMO, NO METAL AND NO CLOAK**

**Medic's revive ability is extremely powerful and accessible to the point players willingly suicide to restore their weapons, even in the midst of a fight. What ought to be the game's biggest punishment has turned into a repeatable strategy due to poor foresight and balance.**



**- ADD THESE VULNERABILITIES TO ALL GIANT ROBOTS**

**The following attack types are incredibly non-consequential in MvM and desperately need a buff, as many items exist around these.**

**Bleed, Targe Bash and Stomp (Mantreads & Thermal Thruster) should all deal **x10 damage** against giant robots by default, free of charge.**

**Burn should deal **x5 damage** against giant robots by default, free of charge.**



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## TANK CHANGES



- TANKS MUST NO LONGER CHARGE UP ANY PLAYER WEAPON/ITEM ON HIT, AS IT WAS DESIGNED SO IN EARLY MvM UP UNTIL THE MECHA UPDATE

This drastic change is **highly** necessary in order to topple down the overpowered effectiveness of a scant few weapons that benefit from this feature. Tanks letting player items charge up results in the **Buff Banner** and **Phlogistinator** not only being able to self-sustain forever on tanks, but also lets a **single player** kill the tank by themselves due to the power of those effects. What was designed as a **team effort** hazard is no longer relevant because of this mechanic. MvM was originally designed without tanks charging up items and already had this game formula figured out.

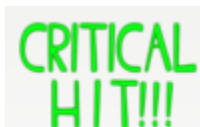


- TANKS SHOULD RAMP UP A PLAYER'S RANDOM CRIT CHANCE ON HIT (AS IT DOES WITH LIVE ENEMIES)

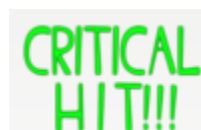
This suggestion would help even out the discrepancies between various loadouts, but more importantly it would also give melee weapons a much needed edge for MvM. It is also a compensation for the previous change.



CRITICAL  
HIT!!!



CRITICAL  
HIT!!!



CRITICAL  
HIT!!!

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## SENTRY BUSTER CHANGES



### - SENTRY BUSTERS SHOULD DETONATE IF THEIR TARGET SENTRYGUN IS DESTROYED

This is necessary to compensate for a nextbot **exploit** where you can keep sentry busters alive permanently due to detonating your sentrygun in mid-air (elevated enough to be out of range, but not high enough to cause the sentry buster to give up). This change would also provide a new **strategy** for engineers; to sacrifice their sentry and utilize a sentry buster's friendly fire on demand.

### - SENTRY BUSTERS SHOULD MOVE UP TO THE SENTRY/ENGINEER'S LAST KNOWN POSITION (NAV) BEFORE DETONATING FROM A GIVE-UP

This is a necessary **counter-measure** to avoid yet another **exploit** where sentry busters immediately detonate (suicide) in spawn if the target is unreachable.





## SCOUT CHANGES

**- MONEY MUST BE COLLECTED AS SOON AS THE PLAYER SCOUT IS IN VALID RANGE**

Normally, money attracted to a scout must play a twirl, tornado-like physics animation to portray the process of becoming collected. However, this causes many **problems**. The collection animation is not visual, it actively displaces the money pile around and performs a **line-of-sight check** at the end to actually become collected. This means if the money pile ends up travelling around props or even into a nearby room the scout passed, it will never finish the process and eventually vanish permanently. This magnet adds up with other physic sources, such as a second scout player nearby or a tank explosion launching money around which can result in money piles getting sent and stuck into unfathomable areas such as ontop of a overhead bridge. Another issue is the magnet delay can mean life or death to a fresh scout out of spawn, a half second travel delay can be quite literally too long to survive in a threatening area.



**- THE BACK SCATTER SHOULD BE ABLE TO DEAL BACK CRITS AGAINST TANKS**



- PISTOLS (STOCK, PRETTY BOY'S POCKET PISTOL, WINGER) MUST PROVIDE 3 SECONDS OF 100% CRITS ON KILL FOR FREE OF CHARGE



This addition is essentially the only way **side-arms** can ever compete with more utility-centered secondaries such as **Mad Milk**.

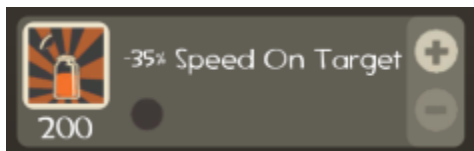
This addition would combo perfectly with an upgraded primary weapon, since players rarely if ever upgrade two weapons at once in MvM.

- FLYING GUILLOTINE SHOULD DEAL 100% CRITS FOR FREE OF CHARGE



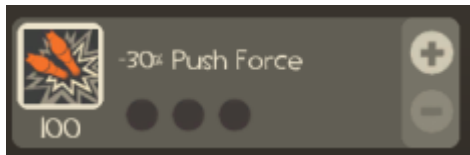
This addition is necessary to provide a means to kill an **enemy uber medic** in one hit (a critical cleaver deals **150 damage** on impact). The **Flying Guillotine** is not useful or powerful enough to provide any advantage over the more utility-centered secondaries without this change.

- MAD MILK & JARATE SLOW UPGRADE IS INCORRECTLY ASSIGNED



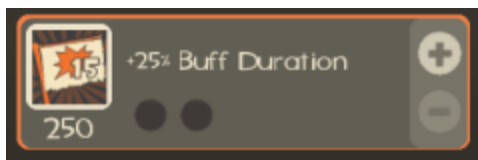
The upgrade mentions **-35% speed on target**, yet the attribute itself is set to cause the victim to move at **35% of their speed**. The attribute value requires correction. Increment must be changed to **-0.65** and cap must be changed to **0.35**.

- **BONK! ATOMIC PUNCH SHOULD INHERIT THE "PUSH FORCE" UPGRADE FROM DEMOMAN'S TARGETS**



This complements **Bonk's** invincibility with a **high knockback reduction**, but also work as a passive bonus for general money collection purposes.

- **CRIT-A-COLA SHOULD INHERIT THE "BUFF DURATION" UPGRADE FROM SOLDIER'S BANNERS**



Extra incentive for players to learn to use their weapon as scout, something that's highly lacking in most setups.

- **ALL SCOUT MELEE (TF\_WEAPON\_BAT) SHOULD RECEIVE THE "MARK ON HIT" UPGRADE THE SANDMAN HAS, AND IN ADDITION THE PRICE MUST BE LOWERED FROM 500\$ TO 200\$**



The **Fan O' War** is the most used scout item because most other bats cannot achieve what it is capable of. Easy remedy is to allow the **Sandman Mark-On-Hit** upgrade onto them all, but also reduce the high price to put it on par with medic's **Milk Syringe (200\$)**.





## SOLDIER CHANGES

- ROCKET SPECIALIST NEEDS A REVISION AS IT IS EXCEEDINGLY POWERFUL AND DOES NOT BALANCE OUT ITS UPGRADE TICKS EVENLY



Rocket  
Specialist

**Rocket Specialist** takes out all established TF2 combat mechanics by letting the player stay away and hit enemies from a safe distance at near full strength for a class meant to be engaged directly into **short-medium range**. **Rocket Specialist's** stun power can hold the strongest of giants permanently in a lock for as long as the player shoots, all this for **one level of power**. In addition, **Rocket Specialist's** poorly spread-out upgrade design actively punishes players who invest more than **one level** in, as it is high priced and vaguely unclear. **Rocket Specialist** requires the following; stun power and fall-off reduction should **scale linearly** across all 4 levels, up to current MvM's power at full strength. As an extra nerf, **Rocket Specialist** should **disable all forms of knockback** onto enemies, as it already locks them in place. A price reduction from 300\$ to 200\$ per level would compensate these changes nicely. Blast Radius and Projectile Speed bonuses remain unchanged.

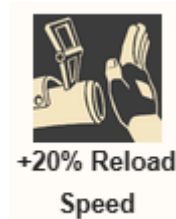
- ROCKET JUMPER'S -100% DAMAGE DOWNSIDE SHOULD BE LOWERED TO -15% DAMAGE FREE OF CHARGE, NATIVELY IN MANN VS MACHINE MODE



This weapon's history, goal and purpose is redundant and unfitting in TF2, let alone in MvM. This weapon quite literally takes away a soldier player's only means of attack and severely brings the team down. This "weapon" is an affront to the game and an indirect grief. Converting some of the damage back would effectively provide a **new weapon** for free.

## - BEGGAR'S BAZOOKA'S RELOAD UPGRADE MUST BE REMOVED

This weapon's effectiveness combined with MvM's upgrades is **through the chart**. None of this weapon is picked up by the upgrade station's tick limiter and this gun's DPS quite literally spirals out of control and outdoes **anything else soldier is capable of**. Given the strongest part of the **Beggar's Bazooka** resides in the reload upgrade (for tap firing), I suggest disabling it entirely for this item as a means to funnel players into using the "barrage" ability more often, which is how the gun was originally designed for in the **Pyromania** update.



## - COW MANGLER 9000 SHOULD HAVE ITS CHARGED ATTACK ABILITY CLIP DRAIN COST DOWN TO 1 AMMO, FOR FREE OF CHARGE

Given the main downside of a charged shot is a long wait time and the loss of movement in such a fast-paced gamemode, it is only fair that it should **not** also deplete your entire clip in the process. This addition would also fix a problem where charged shots become less and less useful the more you upgrade your gun's clip size.



## - THE RIGHTEOUS BISON SHOULD HAVE POMSON'S DRAINS BY DEFAULT IN MVM

Added much needed anti-medic utility to an otherwise fairly good crowd control weapon.



- SHOTGUNS (STOCK, RESERVE SHOOTER, PANIC ATTACK) MUST PROVIDE 3 SECONDS OF 100% CRITS ON KILL FOR FREE OF CHARGE



This addition is essentially the only way **side-arms** can ever compete with more utility-centered secondaries such as **banners**. This addition would combo perfectly with an upgraded primary weapon, since players rarely upgrade two weapons at once in MvM.

- PAIN TRAIN SHOULD PASSIVELY LET ITS USER BLOCK (DEFEND) ROBOT CAPTURE POINTS IN ALL MAPS, ASWELL AS CAUSE A BOMB TIMER TO RESET FASTER (IF APPLICABLE)





## PYRO CHANGES

### - PHLOGISTINATOR MUST BE REVISED

As it stands this weapon is **one of the strongest** in the mode and is gamebreakingly devastating. The **Phlogistinator** is so powerful it single-handedly causes missions to be balanced around it alone.

This weapon simply spirals out of control in power in the hands of any competent player.



The **Phlogistinator** was originally given a small **MvM-specific** nerf many years ago, which is **10x** requirement for the Mmmph mechanic.

This was proven to be ineffective and inconsequential, given purchasable upgrades offset this nerf entirely. Although a large issue is its self-sustainability toward **tanks** (addressed earlier in this document), it's a given fact that the **Phlogistinator** is simply the best weapon pyro can use at all times even tanks unaccounted for, because **controlled critical hits** on a primary weapon is obviously the strongest ability in TF2.

A compromise must be made. The **Phlogistinator** must no longer have a **DAMAGE UPGRADE** in the upgrade station, but as a compensation the 10x Mmmph requirement must also be **removed**. This means users will still enjoy plenty of critical hits, however they will no longer be able to have their damage output **SEXTUPLED** on demand. This change alone would bring pyro's other primary weapons finally on par with the **Phlogistinator**.

**- BACKBURNER SHOULD BE ALLOWED TO DEAL MINICRITS TO THE BACK OF TANKS**



**- AIRBLAST BEHAVIOR MUST BE REVISED**

As of **Jungle Inferno** (2017), the airblast mechanics have been altered in a way that bypasses all previous design to clamp push effectiveness against bots and especially giant bots. This means giant robots are currently pushed by airblast at **full PvP strength** whereas before it was merely a small nudge.

A quick fix would be to set the command **"tf\_airblast\_cray 0"** natively to Mann Vs Machine, which will revert proper airblast behavior.



**- SCORCH SHOT'S SPECIAL PUSH MUST BE FIXED TO NOT AFFECT GIANT ROBOTS (ATTRIBUTES MINIBOSS)**

This specific issue was broken, then fixed, then broken again **multiple times** throughout the game's history.

September 24, 2015 Patch

- Fixed a push bug with The Scorch Shot and **giant robots** in Mann vs. Machine mode.

- SHOTGUNS (STOCK, RESERVE SHOOTER, PANIC ATTACK) MUST PROVIDE 3 SECONDS OF 100% CRITS ON KILL FOR FREE OF CHARGE

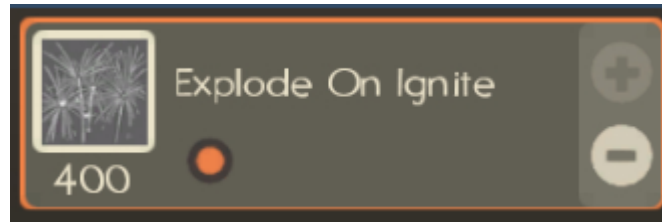
This addition is essentially the only way **side-arms** can ever compete with more utility-centered secondaries such as **flares** or **Thermal Thruster**. This addition would combo perfectly with an upgraded primary weapon, since players rarely upgrade two weapons at once in MvM.



- BURN TIME UPGRADE (FOR FLAMETHROWERS) DO NOT FUNCTION AS OF JUNGLE INFERNO (2017), PRESUMABLY DUE TO THE NEW LINEAR SCALE MECHANIC

|                                                                                                            |                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>+25% Burn<br>Damage |  Pyro <ul style="list-style-type: none"><li>• Flame Thrower (Nostromo Napalmer)</li><li>• Backburner</li><li>• Degreaser</li><li>• Phlogistinator</li><li>• Rainblower</li></ul> |
| <br>+25% Burn Time      |                                                                                                                                                                                                                                                                     |

**- GAS PASSER'S EXPLODE ON IGNITE MUST BE REVISED AS IT IS EXCEEDINGLY POWERFUL AND FULL OF BUGS**



**This upgrade suffers from an exceedingly large amount of bugs and problems and is able to outdo fully-gearred primary weapons as a secondary throwable for a tiny cost.**

**The explosion damage itself is of the bleed type which does not factor in resistances. The damage type should be changed to blast damage.**

**The explosion trigger seems to account the initial afterburn tick, as well as nearby coated robots's own explosions which causes a cascade of chain-reactions which stacks the damage to extremely high counts and not 350 as advertised.**

**All in all the explosion damage is simply too high, even not accounting the bugs above. 350 should be lowered to 100 as to keep the item in line with the secondary tier of weaponry, as well as keeping it in line with the price paid for.**

**Should a coated robot harm themselves with their weapon, a bug will occur in that the explosion changes team and hurts red players.**





## DEMOMAN CHANGES

- LOOSE CANNON'S DOUBLE DONK SHOULD DEAL FULL CRITICAL HITS NATIVELY IN MVM

Without this change, the **Loose Cannon** pales in MvM and is unable to serve as a primary weapon output by itself unlike virtually all other primary weapons in the game. Blast-pushing robots can easily be done by stickybombs and other pipebombs.



- LOOSE CANNON'S DAMAGE UPGRADE HAS A BUG WHERE THE IMPACT DAMAGE ALWAYS DEALS A VALUE OF 50 NO MATTER WHAT AND SHOULD BE FIXED
- LOOSE CANNON'S SPECIAL PUSH MUST BE FIXED TO NOT AFFECT GIANT ROBOTS (ATTRIBUTES MINIBOSS)

Similar to **Scorch Shot**'s case where it used to be fine and was eventually broken.

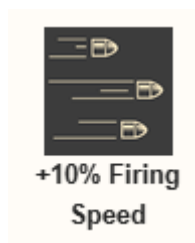


CRITICAL  
HIT!!!



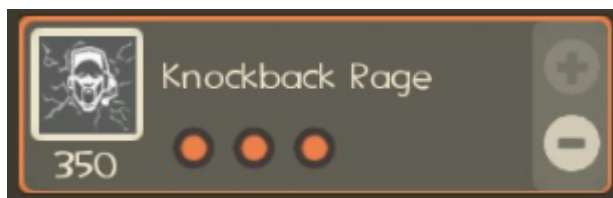
## HEAVY CHANGES

- MINIGUN SPEED UPGRADE FOR ALL MINIGUNS SHOULD BE REMOVED



This upgrade single-handedly bolsters an already formidable weapon into **relentless killing power** that takes on any threat single-handedly. Heavy's miniguns are able to consistently outmatch **every upgraded class in the game** given that MvM is designed around a defensive position where opponents have no self preservation and walk straight into Heavy. Heavy is so powerful in MvM that the hardest made waves have people often choose **multiple heavies** for a team, given no other class is capable of such raw firepower for so little price or trade-off. Community samplings have shown for years that Heavy's base minigun is a fully functional, viable output that is able to keep up with other classes in effectiveness with **no further DPS boost at all**.

- KNOCKBACK RAGE UPGRADE NEEDS ITS DESCRIPTION UPDATED



Though **Knockback Rage** can be put to excellent use, one of its less known inner workings is that it **halves heavy's weapon DPS** for its duration and cannot be used as a straight-upgrade ability. This should be made clearer in the description (-50% DAMAGE DEALT) so that the ability can be more situationally considered.

**- SHOTGUNS (STOCK, FAMILY BUSINESS, PANIC ATTACK) MUST PROVIDE 8 SECONDS OF 100% MINICRITS ON KILL FOR FREE OF CHARGE**

**This addition is essentially the only way **side-arms** can ever compete with more utility-centered secondaries such as sandwiches. This addition would combo perfectly with an upgraded primary weapon, since players rarely upgrade two weapons at once in MvM. Note that these are **MINICRITS**, because **KGB** already covers **full crits**.**



**- BUFFALO STEAK SHOULD RECEIVE AN UPGRADE TO BOOST ITS MINICRITS INTO FULL CRITS**

**Necessary buff to make the playstyle suggested by this item properly viable, given the high power of miniguns in MvM.**



**- HOLIDAY PUNCH SHOULD BE UPDATED TO HAVE ITS INNATE NERF SEMI-REVERTED**



**The laugh "stun" was disabled entirely in MvM many years ago, rendering this item **completely useless**. Suggest removing the nerf and re-adding the stun ability with the following changes:**

**- Giant robots cannot be stunned (Attributes Miniboss)**

**- Affected robots must **use the stun animation rather than the laugh animation** to go around a missing animation issue.**



## ENGINEER CHANGES

- SHOTGUNS (STOCK, PANIC ATTACK) MUST PROVIDE 5 SECONDS OF 100% MINICRITS ON KILL FOR FREE OF CHARGE



This change should **ONLY** affect the **regular Shotgun** and **Panic Attack**, because other engineer primary choices are already considered useful, balanced and widely ran. This addition is specifically tailored toward engineer because sentryguns are able to benefit from **MINICRITS**, unlike **full crits**.

- POMSON SHOULD RECEIVE A PENETRATION UPGRADE



This was omitted in development because the **Pomson** originally already had penetration at the launch of MvM.

- PISTOL (STOCK) MUST PROVIDE 3 SECONDS OF 100% CRITS ON KILL FOR FREE OF CHARGE

This addition is essentially the only way side-arms can ever compete with more utility-centered secondaries such as the **Wrangler**. This addition would combo perfectly with an upgraded primary weapon, since players rarely upgrade two weapons at once in MvM.



- SENTRYGUNS SHOULD BE ABLE TO DEAL BULLET KNOCKBACK AGAIN IN MVM (GIANTS UNAFFECTED)

- SENTRYGUN FIRING SPEED UPGRADE SHOULD INCREASE THE LVL3 ROCKET PACK FIRING SPEED



- DISPOSABLE SENTRYGUN SHOULD RECEIVE THESE BUFFS:

- DISPOSABLE SENTRYGUN SHOULD INHERIT UPGRADE STATION UPGRADES (THEY CURRENTLY DO NOT)

- DISPOSABLE SENTRYGUN SHOULD BE AFFECTED BY WRANGLER

- AS A MEANS TO DIFFERENTIATE A DISPOSABLE SENTRYGUN WITH A MINI SENTRYGUN (THEY CURRENTLY LOOK THE SAME), THE LIGHT BODYGROUP SHOULD BE HIDDEN FOR THE DISPOSABLE SENTRYGUN



- GUNSLINGER SHOULD BE ABLE TO DO COMBO PUNCHING AGAINST TANKS

- GUNSLINGER'S MINI SENTRYGUN SHOULD BE IMMUNE TO SENTRY BUSTER CALLS

- GUNSLINGER MUST RECEIVE A NEW SENTRYGUN DAMAGE UPGRADE (FOR THE MINI SENTRY)

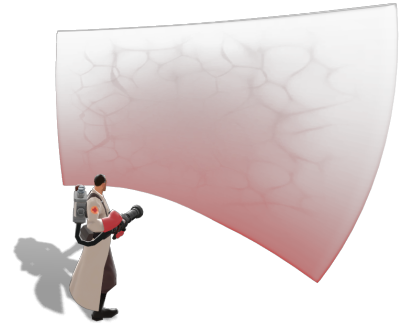
This change is essential for **mini sentry guns** to become viable in MvM, as they currently lack the **staying power**, the **blocking power** AND the **killing power** necessary to match a **regular sentry gun**.

Suggest **+50% sentry damage**, for **4 ticks**, at **100\$** each. This upgrade must be directly tied onto the **Gunslinger** as to avoid possible exploits with boosting the regular sentrygun.





## MEDIC CHANGES



### - MEDIGUN SHIELD UPGRADE MUST BE REVISED

The **Shield** is medic's **strongest ability** because it has many, MANY perks added on top of the basic absolute protection. This ability is not only more powerful than **all** of medic's ubers combined together, but it is so easily charged that it's always readily available. A player could omit all ubercharge and healing upgrades and still have a massive impact on the game using the medigun shield. This **game-breaking** upgrade must be nerfed to compensate for the benefits.

### - MEDIGUN SHIELD UPGRADE'S PRICE SHOULD BE INCREASED FROM 300\$ TO 500\$

### - MEDIGUN SHIELD MODEL SHOULD NO LONGER CHANGE POSITION WHEN LOOKING UP OR DOWN

The shield model appears to back off and move forward depending on the Y axis the player looks at. This is notably known and **exploited** as a means to move point-blank with an enemy (such as bosses), look down, and still be protected despite the graphics incorrectly suggesting it wouldn't be safe to do so. Another factor to consider is the empty space normally separating the user from the shield can be considered a **"danger zone"** and this exploit nullifies that hazard.

### - MEDIGUN SHIELD MODEL MUST NO LONGER BE CONSIDERED SOLID BY BOTS

Despite being seemingly non-solid, the shield prop itself appears to be tangible and bot AI will actively attempt **(and fail)** to move around it, which is highly abusable because this creates a lot of interference with the pathing. The entity should have its collision be **ignored** by bots.



### - MEDIGUN SHIELD SHOULD NO LONGER INFLICT DAMAGE

The medigun shield provides impenetrable, near **complete immunity** to any amount of firepower robots are capable of. This is comparable to ubercharging your entire team **every 14 seconds** at no cost. The fact that the shield is able to deal considerable DPS is salt in the wound and should be removed entirely to keep the ability purely **defensive**.

### - MEDIGUN SHIELD SHOULD BE BLOCKED FROM KRITZKRIEG

The **Kritzkrieg's** unique playstyle gimmick offers **tremendous offensive power** at the cost of the medic's **safety**. This was always the basic idea behind this item, yet the MvM **Shield** destroys this balance entirely. Blocking it off would restore the risk vs reward nature of the **Kritzkrieg** and indirectly benefit other mediguns.



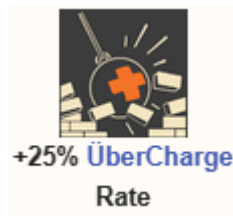
- UBERSAW MUST NO LONGER BE ABLE TO PROVIDE UBERCHARGE WHEN THE USER IS CANTEEN UBERCHARGED (ADDCOND 52 TF\_COND\_INVULNERABLE\_USER\_BUFF)



This is an **extreme imbalance** in that using the ubersaw should always provide high risk for high reward, yet a medic is able to make himself invincible on demand with a **Canteen** to happily charge off bots with no threat. This method is extremely known and abused.

- UBERCHARGE CHARGE RATE UPGRADE SHOULD BE REDUCED FROM 300\$ TO 200\$

This upgrade should be considered **essential** and the **workhorse** of the class, especially should the player not have the **Ubersaw** equipped. The price must reflect as such, given that medic has so many other upgrades to buy from.



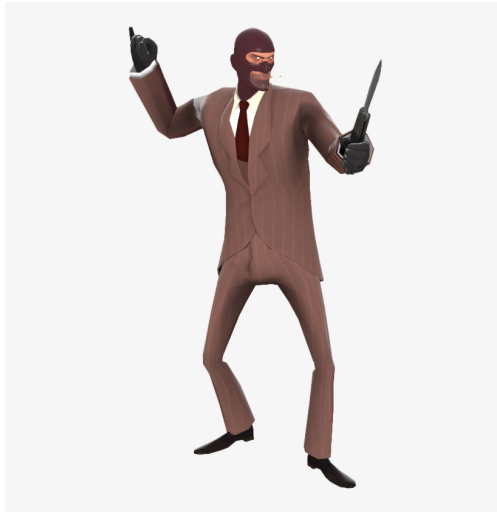
- SOLEMN VOW'S HEALTH VISION PERK IS NON-FUNCTIONAL IN MVM AND SHOULD BE FIXED. IN ADDITION, IT SHOULD BE ALLOWED TO SEE ENEMY BUILDING HEALTH ASWELL AS TANK HEALTH



- CANTEEN SPECIALIST SHOULD NO LONGER PROVIDE A PRICE REDUCTIONS TO CANTEENS



- GIANT MEDIC BOTS HAVE A BUG THAT MAKE THEM NOT  
TURN AROUND TO FACE A BACKSTABBING SPY LIKE ALL  
OTHER GIANT ROBOTS DO

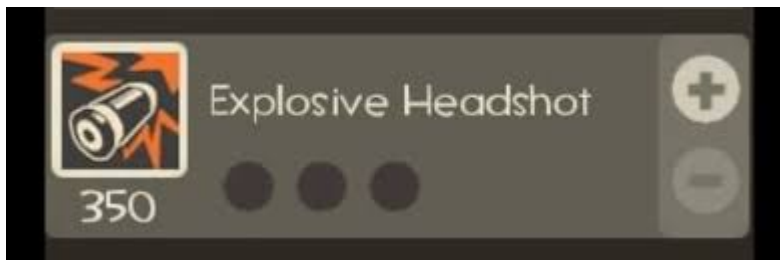




## SNIPER CHANGES

- EXPLOSIVE HEADSHOT MUST BE REVISED TO ONLY TRIGGER ON A FULL-CHARGE HEADSHOT

- EXPLOSIVE HEADSHOT'S DAMAGE TYPE SHOULD BE CHANGED FROM BLEED TO BLAST DAMAGE



**Explosive Headshot** has always been extremely controversial due to its massive crowd control power, unreasonably scaled compared to the level of **input effort** required. While quick headshots is a strong part of sniper gameplay, his innate design has always resided more around **preparing charged shots**. MvM should not steer away from this **core mechanic**. By making **Explosive Headshot** trigger **only on full charge**, this solves two problems by clamping down the overwhelming, gamebreaking power of the upgrade while also tying gameplay back to sniper's charge-based roots. Fixing the damage type will ensure blast-resisting robots will not fall so easily, aswell as provide a means to **resist it** should robots inflict this effect upon the players.

- CHARGE RATE UPGRADE PRICE MUST BE REDUCED DOWN FROM 200\$ TO 100\$



For sniper to function properly in MvM in concert with the previous nerf, this **price reduction** must be done.

## - HUNTSMAN'S PENETRATION UPGRADE SHOULD BE REMADE OR REMOVED



Simply put, **Huntsman's** special hit detection is incompatible with **Projectile Penetration**. This broken upgrade causes the arrow to shatter against various technical entities such as trigger brushes, dynamic props, ubercharges, buildings, tanks and even breaks **Huntsman's** unique limb detection system making headshots alot less reliable. Given the now **extreme single-target damage**, one could understand sniper's key potential does not reside in vague crowd control, but rather precise and consistent headshots.



**- HUNTSMAN SHOULD BE GIVEN A "ALL PLAYERS CONNECTED VIA MEDIGUN BEAMS ARE HIT" NEW UPGRADE FOR 400\$**

**This is the **Third Degree's** attribute which would spread damage to linked medics. Given that the **Huntsman** does not possess the **Explosive Headshot** capability of sniper rifles to kill medics in one shot, this ability will even the bow out with rifles perfectly.**



All players connected via Medigun  
beams are hit

**- BLEED UPGRADE FOR HUNTSMAN SHOULD BE REPLACED WITH A "FIRE ARROW" UPGRADE FOR 200\$ (ALL ARROWS PASSIVELY IGNITE THEMSELVES AS IF A TEAMMATE FLAMETHROWER WAS SHOT NEARBY)**



**- THE CLASSIC SHOULD DEAL HEADSHOTS AT ANY CHARGE LEVEL NATIVELY IN MVM**

**A simple combat fix to this otherwise extremely limited and situational weapon.**



**- SUBMACHINE GUN (STOCK) SHOULD PROVIDE 5 SECONDS OF 100% CRITS ON KILL FOR FREE OF CHARGE**



**This addition is essentially the only way **side-arms** can ever compete with more utility-centered secondaries such as **jarate**, **backpacks**. This addition would combo perfectly with an upgraded primary weapon, since players rarely upgrade two weapons at once in MvM. Note that these are **FULL CRITS**, because **Cleaner's Carbine** already covers **MINICRITS**.**



## SPY CHANGES

- INVISIBILITY HANDLING BY BOTS IN MvM MUST BE REVISED



Currently, the **Dead Ringer** watch is considered as the only viable item for MvM due to a problem with how AI handles standard cloaking. By default, when an invisible watch spy gets hit they flicker a little, however in MvM these flickers allow bots to aggressively continue damage as each flicker **renews** the bot's aggression **over** and **over**, killing off the player quickly. Because the **Dead Ringer** provides both a high resistance and never flickers, it is a world apart from the invis watches and is **ALWAYS** favored in MvM. Flicker detection must be turned off in MvM if players ever hope to use those other watches.



## - REVERT BACKSTAB DAMAGE (ARMOR PENETRATION) FORMULA

|                                                                                                           |                                                                                                                                                                                                     |                                                                                                              |     |   |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----|---|
| <br>Armor<br>Penetration |  Spy                                                                                                               |  All classes <sup>3</sup>   | 400 | 4 |
|                                                                                                           | <ul style="list-style-type: none"><li>• Knife (Sharp Dresser, Black Rose)</li><li>• Your Eternal Reward (Wanga Prick)</li><li>• Conniver's Kunai</li><li>• Big Earner</li><li>• Spy-cicle</li></ul> |                                                                                                              |     |   |
|                                                                                                           |                                                                                                                                                                                                     | <ul style="list-style-type: none"><li>• Saxxy</li><li>• Golden Frying Pan</li><li>• Prinny Machete</li></ul> |     |   |

During the **December 20th, 2012 Mecha Update**, spy was provided a large damage increase to the **Armor Penetration** upgrade. Following 4 tick levels (including none), the old formula was :

**0%, 25%, 50%, 75%, 100% up to a maximum of 750/hit**

After this buff, the new formula was increased to :

**25%, 50%, 75%, 100%, 125% up to a maximum of 938/hit**

This massive change was unfounded and misled, as the giant medic health (a major foe in harder missions) was originally designed to accomodate the old formula, which would set off their uber if no help was provided to the spy. At all times, this **DPS** increase simply spirals out of control in the hands of a competent player and will consistently outdo all classes but heavy and should see itself reverted.



## - YOUR ETERNAL REWARD MUST HAVE ITS NERF REVERTED



In MvM history, **Your Eternal Reward** was immediately nerfed at launch out of fear that this item would be too powerful in MvM. The nerf in question is a function check which adds an extra second of delay before given a disguise, completely **ruining the purpose** of this item and making it non-viable. Years of community tests have proven this was never warranted. **YER** is constantly threatened by crossfire, human error, kill-steals and cloak loss at all times. In addition, nextbot's ai code have several **failsafes** to ensure even perfect play from a spy can be detected at opportunistic times.



## - SAPPERS SHOULD NOT DEplete UPON ENEMY BUILDINGS

In MvM, sapping a robot will cause a **cooldown** to the player's sapper which makes sense given it directly interferes with a live "player" foe. Considering engineer robots were added much later on, this mechanic was kept by default and causes the spy player to **lose their sapper for any simple building sap**, a process which is nowhere as useful as a proper robot sap. As to make it consistent with regular TF2 and as a means of a buff, sappers should behave like regular PvP when sapping robot buildings and **not undergo a cooldown**.



## - RED-TAPE RECORDER DOES NOT FIRE SAPPED GAME-EVENTS



This bug means an engineer robot does not acknowledge a **Red-Tape Recorder** sap and will not attempt to remove it, in addition this also causes the teleport wave-bar icon to not remove itself if destroyed by a **Red-Tape Recorder**.

## - RED-TAPE RECORDER SHOULD CAUSE A UNIQUE EFFECT UPON ROBOTS

Given that the **RTR** excels against high-health buildings and is essentially a straight upgrade in MvM because it stuns robots just the same, its sap effect should **be made different**. Suggest having a **RTR-sapped** robot **NOT** become stunned, **NOT** become slowed, and instead have its movement go the opposite direction of its intended pathing for the duration of the sap. This is a teamwork-focused perk at the cost of stabbing helpless robots for the spy, which evens out the better building effectiveness.

