

JAGS Combat System v1.5

Hi. We're the JAGS guys. We've been doing this for ... well ... a while (JAGS Alpha 1.0 came out in 1993, I think). As we keep doing it, here are some things we've come up with that we want to share. In this case, it's new combat rules. See the sidebar on deciding whether you want to use these or not—but we'll explain what we've done, why we've done it, and what you might want to do with it.

New Auto-Fire Rules

The JAGS Auto-Fire ('full automatic') rules are Byzantine. Without going too far into the current system's deficiencies, the requirement for charts, the complex rules for multiple modes of automatic fire, and so on have proven difficult for everyone. Mathematically, because of the way that Control Modifiers work, it's sometimes (fairly often, we think) a toss up whether to fire a weapon many times or just once—the odds of scoring a hit wind up being similar (higher control modifiers degrade the chance of multiple bullets striking).

Anyway. We have "simpler rules" that we've been playtesting ... and here they are.

Controlled Burst

REA: 10 REA for Controlled Automatic Burst.

Roll to Hit: Weapons skill or COR with double negative modifiers (if you have no skill). Each successive roll to hit in 1 second is at -1 per full point of Control Modifier (cumulative).

How Many Rolls To Hit: A fully automatic weapon gets 1 roll to hit, +1 per 4 full shots fired per second (so a 12 ROF gun gets 4 rolls to hit, a 16 ROF gun gets 5).

Controlled Automatic Fire

When a character has an automatic weapon its Rate Of Fire is now expressed as "number of shots per Automatic Fire Action." And, each weapon still has its listed Control Number.

It works like this: When you get to go you spend your REA (10pts). If your base character has less REA than 10, but at least 7, you can still do this—you just spend "All of it." If your REA is reduced to less than 10 as a result of being Stunned,

Dazed, or anything else, you can't take a Controlled Automatic Fire Burst (but you can still "pull the trigger"—see the uncontrolled burst rules below.)

When you fire a controlled burst you roll for the listed number of shots: an M16A2 has a rating of 3x[8]. This means you roll 3x to hit (against the same or different targets) and the clip empties 8 bullets.

Aiming: If you aim with a fully automatic weapon, your aim bonus *only* counts for the first shot.

Control: The control modifier is subtracted from each shot's to-hit roll and is cumulative. If a gun has a -3 Control Modifier and gets 3 rolls to hit per second (fires 8 bullets) then first roll to hit is at -0. The second is at -3. The third is at -6. A Level 3 Weapons skill will ignore -3pts of this negative *per shot* (so the character would be at -0, -0, -3. A Level 4 weapon skill ignores -6pts (and would suffer no negative for any shots).

Fractional Control Modifiers: Some guns will have a .25 Ctrl score. This means if it gets 5 rolls to hit per second, only the last is at -1. The first roll to hit is at -0, the second at -.25 (drop fractions to 0), the third at -.5 (drop fractions to 0), the fourth at -.75 (drop fractions to 0), and the fifth at -1 (keep whole numbers).

Control Modifier of 0: If the gun fires bullets in a conventional fashion, a Control Modifier of 0 is treated as .5 (so every 2 full shots there's a -1). If the gun is a laser weapon, however or otherwise has literally no kick, treat as *no control modifier*.

Blocking Bullets: If a character can deflect bullets with a super-power of some sort, a single blocking action will apply against all fire—if it's a standard block wherein what the attacker hits by must be equaled or exceeded by the block roll, then the attacker can keep rolling, hoping for a better hit. The blocker can choose to take additional actions—declared *after a to-hit roll exceeds the original block roll*.

Example: A super character has a "block bullets" skill on a 14-. Using the ability costs 3 REA. An attacker opens up with a 3x [8] weapon (taking 3 shots). The super character declares a blocking action and both roll. The attacker's first shot hits by 4. The blocker makes his skill roll by 5: deflected.

The attacker fires again, a hit by 5! As a tie goes to the defender, the shot is still deflected and the super character spends *no* additional REA. The third shot hits by 6—this would be a hit.

The super character has the option of spending 3 more REA and taking his roll, hoping to beat or equal a 6.

Firing Into Crowds: even though the game system only models a few individual rounds, if you fire into a crowd of incoming zombies with a machine gun you can expect to hit more than just 3 or 4. Here are the rules for crowds:

You get an "extra roll to hit" based on how tightly packed the crowd and how many bullets you are firing. You get 1 extra roll to hit (with the to-hit number as listed below) per 4 full bullets fired. This means that a 3x [8] M16 Rifle gets 3 "aimed shots" (as above) and 2 "extra shots" based on the size of the crowd and how tightly they're packed.

Bullets Per Person	1:1	2:1	3:1	4:1	5:1	6:1
Packed	10-	11-	12-	13-	14-	15-
Tight	7-	8-	9-	10-	11-	12-
Moving crowd	6-	7-	8-	9-	10-	11-
Loose crowd	5-	6-	7-	8-	9-	10-
Sparse crowd	--	--	--	7-	8-	9-

Firing from the Hip

REA: 5 REA for "rock and roll"

Roll to Hit: Weapons skill or COR with double negative modifiers (if you have no skill).

As Controlled burst but the Control Modifier is increased by 1 (a -1 Ctrl weapon becomes -2)

How Many Rolls To Hit: as per controlled burst

Uncontrolled Automatic Fire

Firing from the hip means spending only 5 REA and blazing away. It's a lot less accurate unless you're very good. Weapon's Ctrl modifiers are made worse by 1pt. Otherwise rules as above are in effect.

New Shotgun Rules

We've changed the Shotgun/scattergun rules around too. Again, with an eye towards making them simpler. We wanted to retain the following ideas:

- Shotguns are not so good against armor.
- It's somewhat easier to hit targets with scatterguns at long range.

The chart below gives the range for different shotgun types, the plus to hit (this is NOT added to damage modifier, a hit by that amount is treated as a hit by 0).

Gun Type	Short +1	Medium +2	Long +3 (1/2 dmg)
Standard	10y	20y	30y
Sawed Off	5y	10y	15y
Extreme	2y	4y	8y

Armor Rule: a shotgun's PEN factor is $\frac{1}{2}$ its listed damage.

New Weapon/Damage Type Rules

The JAGS Explosive rules are pretty serviceable we think—but over time we've tried slight variations on that theme. As we've introduced a few new damage types, we've come up with some codified rules for them. Here they are.

Explosive Damage

Notation: X

Rolls on: Impact Damage chart

Rules: Explosive damage has a RAD of 2 yards. This means that each two yards, the damage done is divided by the *square* of the distance (at 6 yards the damage is 1/9th the original).

If an explosive attack misses by 1, due to blast-radius it hits the target for half damage.

The *minimum* Damage Modifier for explosive damage is +4. This number may be reduced by negative damage mods in the target (*Fast Company* damage reduction). It only really applies to to-hit rolls (a hit by 0 to 3 is treated as a hit by 4).

HEAP Damage (High Explosive Armor Piercing)

Notation: HEAP

Rolls On: Penetration Damage chart

Rules: HEAP applies to shells that are shaped-charge explosives. They are listed as a given amount of PEN damage (a 75mm Recoilless Rifle shell clocks in at 225 PEN) however, if they *penetrate* their target the *Base Damage* is multiplied by 3. Then the Damage Modifier roll is made.

NOTE: The "Armor Piercing" element of this is reflected in the base damage score. They do not penetrate armor better than their listed PEN value reflects.

Cutting Tool / Ultra Sharp

Notation: U-Sharp or Cutting Tool

Rolls On: Penetration Damage chart

Rules: The weapon has two listed Base Damages. One is if it hits by 0-3. The other is used if it hits by 4+. This determination is made before rolling for damage or checking for penetration.

The idea is this: something like a lightsaber is incredibly lethal if it gets a good hit off on you (a torso hit) doing a bazillion points of damage (hey, MS Word recognizes 'bazillion!'). However if you just get hit in the arm, you take a lot of damage but not tank-crippling amounts. So the idea is that when two masters fight, they might *hit* each other—but they won't score a *vital* hit unless they get real lucky.

The PEN Value of the weapon is most "realistically" (realistic to the simulation) calculated from the higher value (the lightsaber doesn't cut armor on the arm less well than the torso). Our standard rule is to simplify the score to the actual damage that's being rolled on. But consider always using the higher value as an advanced rule.

New Grappling and Armor Penetration Rules

New Resistance Rules

Grappling and armor penetration both compare two numbers against each other to get a “success” roll. In the case of penetration, the armor gets a “save” roll to avoid being penetrated by a hit with a penetrating weapon. In the case of grappling, the aggressor rolls gets a “succeed” roll against the defender’s grapple score.

In both cases, these values might be close (two evenly matched opponents) or wildly different (a skinny guy grappling with a rhinoceros). JAGS handles both of these situations with a “success roll chart.

Here’s how it works:

1. Identify who’s doing the dice rolling (the guy wearing the armor for penetration, the guy attacking for grappling).
2. Compare the *roller’s* score against the *opposing* score to determine the success roll.
 - If the opposing scores are *equal* the success roll is 10- (50% chance)
 - If the roller’s score is twice the opposing score the success roll is 16-
 - If the roller’s score is more than ten times the opposing score the chance of success is 20- (100% chance of success)

On the other hand...

- If the roller’s score is less than half of the opposing score, the chance of success is 4-
 - If the roller’s score is less than 10% of the opposing score the chance of success is 0-
3. Roll and apply the results according to the JAGS rules.

Okay, so what do you do for values in between?

What the heck were we thinking!?

What good is a game where you have to compute 129% of your grapple score of 24? Well, we’re kinda wondering about that too.

It’s like this: the method listed in the book (take both numbers, divide by a reasonable factor, and then take a simple difference) is faster, easier, and (mostly) will still work.

But it isn’t “mathematically correct.” When some people (including us) started building computer simulators of JAGS combat, we found this out.

So this is the fix. For a computer, this is simple. For everyone else, there are spreadsheets and calculators. Or just forget about it (mostly).

Got a score of 80 against a score of 100? Treat it as an 8 vs. a 10 in the old system. Got a 2000pt of armor tank hit by a 2500 PEN tank shell? Treat it as 2 vs. 3 or +1 on the old chart. It just requires a GM judgment call that we wanted to remove in case of computer simulation or people who didn’t want that in the game.

Here's the full chart

Roll	Range Start	Range Stop	
20-	10% of your score	To 19% of your score	Range: Opposing score is between 10% and 19% of the roller's score
19-	20% of your score	To 24% of your score	Range: Opposing score is between 20% and 24% of the roller's score
18-	25% of your score	To 32% of your score	Range: Opposing score is between 25% and 32% of the roller's score
17-	33% of your score	To 49% of your score	Range: Opposing score is between 33% and 49% of the roller's score
16-	50% of your score	To 56% of your score	Range: Opposing score is between 50% and 56% of the roller's score
15-	57% of your score	To 65% of your score	Range: Opposing score is between 57% and 65% of the roller's score
14-	66% of your score	To 68% of your score	Range: Opposing score is between 66% and 69% of the roller's score
13-	70% of your score	To 89% of your score	Range: Opposing score is between 70% and 79% of the roller's score
12-	80% of your score	To 89% of your score	Range: Opposing score is between 80% and 89% of the roller's score
11-	90% of your score	99% of your score	Range: Opposing score is between 90% and 99% of the roller's score
10-	Your score	109% of your score	Range: Opposing score is equal to, or less than 10% greater than the roller's score
09-	110% of your score	119% of your score	Range: Opposing score is between 110% and 119% of the roller's score
08-	120% of your score	129% of your score	Range: Opposing score is between 120% and 129% of the roller's score
07-	130% of your score	139% of your score	Range: Opposing score is between 130% and 139% of the roller's score
06-	140% of your score	174% of your score	Range: Opposing score is between 140% and 174% of the roller's score
05-	175% of your score	199% of your score	Range: Opposing score is between 175% and 199% of the roller's score
04-	200% of your score	249% of your score	Range: Opposing score is between 200% and 249% of the roller's score
03-	250% of your score	299% of your score	Range: Opposing score is between 250% and 299% of the roller's score
02-	300% of your score	399% of your score	Range: Opposing score is between 300% and 399% of the roller's score
01-	400% of your score	499% of your score	Range: Opposing score is between 400% and 499% of the roller's score
00-	500% of your score	Or more	Range: Opposing score is over 500% of the roller's score

Example 1:

Roller's score 100

Roll	Opposing score range	
20-	10 - 19	Opposing score is between 10% and 19% of the roller's score
19-	20 - 24	Opposing score is between 20% and 24% of the roller's score
18-	25 - 32	Opposing score is between 25% and 32% of the roller's score
17-	33 - 49	Opposing score is between 33% and 49% of the roller's score
16-	50 - 56	Opposing score is between 50% and 56% of the roller's score
15-	57 - 65	Opposing score is between 57% and 65% of the roller's score
14-	66 - 69	Opposing score is between 66% and 69% of the roller's score
13-	70 - 79	Opposing score is between 70% and 79% of the roller's score
12-	80 - 89	Opposing score is between 80% and 89% of the roller's score
11-	90 - 99	Opposing score is between 90% and 99% of the roller's score
10-	100 - 109	Opposing score is equal to, or less than 10% greater than the roller's score
09-	110 - 119	Opposing score is between 110% and 119% of the roller's score
08-	120 - 129	Opposing score is between 120% and 129% of the roller's score
07-	130 - 149	Opposing score is between 130% and 139% of the roller's score
06-	150 - 174	Opposing score is between 130% and 174% of the roller's score
05-	175 - 199	Opposing score is between 175% and 199% of the roller's score
04-	200 - 249	Opposing score is between 200% and 249% of the roller's score
03-	250 - 299	Opposing score is between 250% and 299% of the roller's score
02-	300 - 399	Opposing score is between 300% and 399% of the roller's score
01-	400 - 499	Opposing score is between 400% and 499% of the roller's score
00-	500 - 500	Opposing score is over 500% of the roller's score

Grapple table		
Offensive	14	
Roll	Defensive	
20-	1	1
19-	2	2
18-	3	3
17-	4	6
16-	7	7
15-	8	8
14-	9	9
13-	9	10
12-	11	11
11-	12	13
10-	14	14
09-	15	15
08-	16	17
07-	18	20
06-	21	23
05-	24	27
04-	28	34
03-	35	41
02-	42	55
01-	56	69
00-	70	70

Making Sense of all this

These numbers seem arbitrary at first, but they actually do make some sense. To use smaller numbers as examples, take a roller's value of 14. To make things clearer, we'll use a grappling example: a wrestler (the roller) is attacking a defending wrestler (the "opposing" value).

Under this new system, grapple values are increased by 10. A normal human with a strength of 10 and a mass of 2 has an offensive grapple of 14 (the old way, he had a grapple of 4).

Here's what the chart looks like for that value

Note that an opposing value of 14 yields a 10-roll, just as described above.

Since most average humans have a defensive grapple of 12 (under the new system—2 under the old system), the attacker has an 11-chance of a success against an average opponent.

What happens when this “average guy” goes up against an inferior opponent (wrestling with his girlfriend for ownership of the remote control)?

She has a mass of 2 (100lbs) and a strength of 9, giving her a grapple of 11 (Mass + (10-strength) = 2 + (-1) = 1, +10 for this new system). Looking on the chart, challenging a resisting score of 11 yields a 12- chance of success.

Let’s say he gets the control and she tries to take it back... what’s her chance? Trick question—you don’t look at *this* chart. You’d look at the grapple chart on *her* character sheet.

Now, let’s say the *cat* with a grapple score of something like 2 (Mass = 0, Strength = 2), has the remote control and he tries to pull it away. A 14 Grapple against a 2 opposing value has a 14- chance of success. He’ll almost always get it.

These values may appear somewhat strange, but they work, mostly on relatively common fractions.

A 10% difference in scores gives +/-1 for up to 3(30%).

A 50% difference in scores gives +/-4

A 75% difference gives +/- 5

A 100% difference gives +/-6

And so on.

Since we don’t recommend calculating these things on the fly, we’ve provided tables for most of the values we’ve used and suggest working out the ranges for each roll for your character’s grapple score and weapons during character creation.

The Wound Chart

The new character sheet contains a Wound Chart. This isn’t a new rule but rather a way of recording wound and condition levels in a manner that makes them easier to reference during play.

The text in red, you fill out yourself:

Wound Chart

Normal:	SubM	1
Total Damage	Minor	1/3 DP
One to Minor Wound-1	Major	1x DP
	Crit	2x DP
Hurt:	Minor	1
Total Damage	Major	1x DP
Minor wound to Major Wound -1	Crit	2x DP
Injured:	Minor	1
Total Damage	Major	1/3 DP
Major Wound to Critical Wound-1	Crit	1x DP
Serious:	Minor	--
Total Damage	Major	1
Critical Wound+	Crit	1/3 DP

What does this mean?

For a character with 15 DP, his chart will look like this:

Normal:	SubM	1
Total Damage	Minor	5
1-4	Major	15
	Crit	30
Hurt:	Minor	1
Total Damage	Major	15
5-14	Crit	30
Injured:	Minor	1
Total Damage	Major	5
15-29	Crit	15
Serious:	Minor	--
Total Damage	Major	1
30+	Crit	5