
Subject: ARS - Advanced repair system

Posted by [Hombre87](#) on Tue, 04 Oct 2011 09:44:58 GMT

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This idea came to me while playing AIMNAS.

The current situation:

we got tons of guns, but they are judged by 3-4 factors. accuracy, damage, amunition and attachments. But somehow this doesn't feel right. There is no difference between an old m16 and a new hk g36 or xm8 or Scar-L. all do nearly the same damage, have the same range and accept the same attachments. but why is the m16 coolness level 5 and the scar-L level 8? And what about those LMGs? why carry a 16kg LMG, if a m16 with beta-c mag loads 100 rounds, weights half as much and even takes the bigger scopes? I admit, this is a little overdramatized, but that's where my idea comes:

The Advanced repair system:

Why is the mp5 the world's most successful mp? because it's damn reliable! And so, those newer, "cooler" guns are more reliable than those crappy old m16. JA2 already checks the terrain for camouflage reasons, why shouldn't this apply to the wear and tear of weapons?

This brings me to another point: overheating. Newer weapons tend to overheat slower. therefore ja2 needs a system for the heat development of guns. Here comes the big advantage of LMGs. While an old m16 could be severely damaged by firing 100 bullets, taken into account that the gun is in the field for quite some time with no proper maintenance, those LMGs are designed to fire a few thousand shots.

Enter the replaceable barrel:

After firing 100-200 rounds, use 60AP (or as much that no shooting in that round would be possible) and switch the barrel with a new one.

e.g.

Note: the barrel extender is used as a mockup dummy for the barrel.

Additionally there should be a second "page" to the NAS screen, showing the internal components of any gun:

From left to right: barrel, munition feed, trigger/triggergroup. i only use the icons as placeholders, they have nothing to do with the current triggergroups/mag adapters.

Those items should not be repairable with the old "repair" duty/skill. instead they can be repaired with special "weapon maintenance kits". this would work like using c20 to repair bodyarmor in aimnas (combining). if one component, e.g. the barrel should get destroyed, it can't be replaced,

therefor the gun is broken and unusable (only lmg's got replaceable barrels, but if you destroy their trigger groups due to bad maintenance, they get worthless, too).

The wear and tear of the guns/gun parts should be calculated according to:

the terrain - every gun gets a modifier for desert, wood and jungle (urban modifier being 1 or default).

The Ammo - overpressure/match ammo heats the gun up faster, cold ammo slower.

the fire mode - this needs to be balanced by testing, but as a simple example - 6 single shots give 6 "heat points", 2 3-round bursts give 12 "heat points", 6 shots in full auto give $6 \times 3 = 18$ "heat points". Again, every weapon can have its own multiplier, adding to the unique "feel" of every gun.

Things I need:

I've got my Ba.Sc. degree in computer science so I know how to code most of this. but I would need another coder who is experienced in JA2 modding and who can show me how and where to start.

Subject: Re: ARS - Advanced repair system
Posted by [KEN C](#) on Tue, 04 Oct 2011 13:52:52 GMT

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I believe this can be a much needed improvement to the present gun system.

I encourage you to proceed as far as you can. Full time help is very hard to get here but people are willing to help when you get stuck on specific points.

Subject: Re: ARS - Advanced repair system
Posted by [DepressivesBrot](#) on Tue, 04 Oct 2011 14:03:17 GMT

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So, what exactly do you want to know?

Subject: Re: ARS - Advanced repair system
Posted by [Wil473](#) on Tue, 04 Oct 2011 14:33:45 GMT

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Just to clarify, you want to link the general ability to fire on the state/existence of an attachment or two?

ie. no barrel = no shooting, no trigger group = no shooting

If so, great, I fully support this idea. However, would you consider making attachments governing fire mode a more general purpose capability? (see this old post:

<http://www.ja-galaxy-forum.com/board/ubbthreads.php?ubb=showflat&Number=290546#Post290>

546) Admittedly my suggestion is the reverse of how I'm reading your idea - attachments overriding fire modes, instead of blocking fire modes.

Otherwise I can answer some questions on the modding (data entry monkey work) side of things.

EDIT: I can also offer advice on past attempts to implement changable LMG barrels.

- current implementation in my three mods is a simple partial restoration of status
- past attempts included using the extended barrel infrastructure, but I could never get them to last longer than 60 shots, or become totally indestructable. Also the barrel-less LMG could still fire (0 range is still range in-game).

Subject: Re: ARS - Advanced repair system

Posted by [Hombre87](#) on Wed, 05 Oct 2011 08:12:12 GMT

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@wil473: this is exactly what i am proposing. no barrel = no shooting etc.

I just came up with an idea for wear on the ammo reviecer. the wear should be increase if a mag-adapter is used. this would go well with the situation irl:

"A test in 2003 by US Army soldiers in Afghanistan found the C-Mag unreliable in simulated combat conditions, with frequent failures to feed among the issues.[4] Problems are exacerbated in dusty and sandy environments.[citation needed] The C-Mag also stresses the magazine release,[citation needed] since a fully loaded C-Mag weighs more than three fully loaded 30 round magazines."

Source: http://en.wikipedia.org/wiki/Beta_C-Mag

i will look into your idea for attachments, but i would see more purpose in it for throwing out those mag adapters and make the mags more realistic. e.g. an m16 would take those 10 shot clips, 30 shot stanag and 100 shot c-mags, but adding 10 10-shot clips would never generate a 100 c-mag. therefor we would need donkeys (like in aimnas) but instead of creating boxes, they are used to "fill up" those empty c-mags that are lying around in all of arulco

@Depressives Brot: 1. the basic steps like setting up the right IDE (don't know whats the most common here?), getting the source or a up to date prebuild, and maybe where to find the NAS-system, this advanced description thingy and the system for stamina ingame (wich i would like to copy for the heat management of guns).

Subject: Re: ARS - Advanced repair system

Posted by [DepressivesBrot](#) on Wed, 05 Oct 2011 09:04:10 GMT

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Don't do double works on those magazines, there's already a New Magazine System in the works

that gets rid of magical size conversion and 'adapters'

As for the basic setup:

Preferred IDE around here is MS Visual C++ 2010 Express, just get the current beta source from here and load the project file. You'll also need the data files and eventual beta data files to test your stuff, use your preferred SVN tool to download them.

NAS and generally attachment related stuff is in Tactical\Items.cpp, EDB in Tactical\Interface Enhanced.cpp. Dunno exactly about stamina though, might be Tactical\Points.cpp. You mean the blue bar on your mercs, right? Those are usually called breath / breath points in the code, just search for those.

Subject: Re: ARS - Advanced repair system
Posted by [PasHancock](#) on Wed, 05 Oct 2011 10:02:16 GMT
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if this project will be successful, there should be an option to play with or without ARS when starting new game

Subject: Re: ARS - Advanced repair system
Posted by [Wil473](#) on Wed, 05 Oct 2011 12:58:36 GMT
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Echoing what DepressivesBrot said, yes there has been progress on a New Magazine System (NMS) here:
<http://www.ja-galaxy-forum.com/board/ubbthreads.php?ubb=showflat&Number=280585#Post280585>

Somewhere in this long thread subject of more/less reliable magazines has been discussed. If I remember correctly it will be more or less how the current system works, except there will be two things modifying the gun: NMS magazine item, bullet data for the round being fired in the firing queue (there's been even more discussion on multi-ammo type support by NMS). As long as the new data needed for your "heat"/repair/reliability system Hombre87 are in items.xml NMS should be able to support additional magazine constraints on reliability (or any new characterization added to in-game weapons).

Though he's been somewhat busy lately, you may want to contact ChrisL, he's the one working on NMS and he is responsible for the current NAS implementation.

Subject: Re: ARS - Advanced repair system

Posted by [Slax](#) on Wed, 05 Oct 2011 20:38:19 GMT

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Funny how 1.13 is becoming what every big license first-person-shooter is trying to be.

Subject: Re: ARS - Advanced repair system

Posted by [Hombre87](#) on Fri, 07 Oct 2011 08:37:06 GMT

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so today i'm finally getting back home to my ja2 cd (man i need to rip this 12 year old beauty to my hd..) and so i'm hoping to start work today.

also i would be handy to know what causes the engine to jam gunns. i think there needs to be a trigger for jamming guns (can be unjammed) and from blocking from fire completely.

Subject: Re: ARS - Advanced repair system

Posted by [The_Bob](#) on Fri, 07 Oct 2011 12:38:45 GMT

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I suggest adding a unjam option to the unload button. So clicking it when the gun is jammed will attempt to unjam it, otherwise it will work as normal.

Subject: Re: ARS - Advanced repair system

Posted by [Sandro](#) on Fri, 07 Oct 2011 15:16:12 GMT

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There is no way you could copy the energy system to guns, as it is rooted in various places in the code. You could go for checking the way item status is handled though, and use similar way. Energy (stamina/breath) is a complicated thing which wouldn't help you any for this feature.

TBH I am a bit sceptical looking at the concept. For some reasons:

- 1) If you'd need to repair the parts to keep the gun functional, what about the overall gun status? What exactly it would represent then? Would it go down by using the gun or not? Isn't it kinda colliding?
- 2) If you introduce "weapon maintenance kits" to repair those parts, the regular repair system suffers. Repairing weapons is the most important part of the repair system in game. I wouldn't prefer to make it invaluable, but rather the contrary.
- 3) I can't see the benefits for the gameplay. If the player just has to use a kit from time to time, so his gun won't fall apart, it doesn't seem to expand players possibilities and choices much exciting way. More likely it could turn to a bothersome routine.
- 4) What difference does it have from just knowing which part of gun is damaged? If we let's say.. add a "schematic" view of guns, which shows damaged parts in red.. we may reach the same result. It does not matter which part of the gun is damaged - we still need to use the same kit anyway (which is the same as just repair it by regular repair assignment in the end).

Dunno, maybe it's just me. I hate to criticize, but I still had to say.
I believe there are better solutions.

Btw. there was a talk about similar things - about adding (semi-)permanent damages to weapons and another level of weapon status, which would go down much faster but could be "repaired" during mission by maintenance kits (dirt in barrel and magazine etc.. you just need to clean your weapon up). The lower this faster-degrading weapon status is while you still use the weapon, the more real damage is done to the gun and more chance to gun jamming. Etc. etc.

Subject: Re: ARS - Advanced repair system
Posted by [Sam Hotte](#) on Fri, 07 Oct 2011 16:36:02 GMT
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I 2nd Sandro's thoughts. Shifting and dividing gun status into 3 different parts is way to complicated without changing gameplay to the better (IMVHO): If those subparts mentioned (barrel, ...) deteriorate - i need a break and i have to repair.

The impacts of wheather, terrain and so on, should work with existing sytem just the same: Fighting in the desert makes weapons (overall status) deteriorate faster than in urban sectors.

And even replacable barrels (where applicable) etc. could also be simulated with existing system: Attaching the replacement instantly increases weapons overall status.

And if we want to make weapons more distinguishable from each other by means of reliability, well, we already have reliability and repair ease to deal with it, IMHO.

Subject: Re: ARS - Advanced repair system
Posted by [Hombre87](#) on Fri, 07 Oct 2011 22:46:05 GMT
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Sandro

1) If you'd need to repair the parts to keep the gun functional, what about the overal gun status? What exactly it would represent then? Would it go down by using the gun or not? Isn't it kinda colliding?

2) If you introduce "weapon maintenance kits" to repair those parts, the regular repair system suffers. Repairing weapons is the most important part of the repair system in game. I wouldn't prefer to make it invaluable, but rather the contrary.

3) I can't see the benefits for the gameplay. If the player just has to use a kit from time to time, so his gun won't fall apart, it doesn't seem to expand players possibilites and choices much exciting

way. More likely it could turn to a bothersome routine.

4) What difference does it have from just knowing which part of gun is damaged? If we let's say.. add a "schematic" view of guns, which shows damaged parts in red.. we may reach the same result. It does not matter which part of the gun is damaged - we still need to use the same kit anyway (which is the same as just repair it by regular repair assignment in the end).

1) frankly, i don't give a damn about that. just because there is this "overall gun status" thing wouldn't keep me from messing with the system and creating something new. thats just like saying "ja2 has a cth-system, why make nth?"

But on the other hand, thank you for this post, because now i know where to put the heat-indicator. that could replace the overall weapon status!

2)this thing is called "advanced repais system" so i basically throw out the old system, so again, i don't give a damn about the old system. and ARS wouldn'T make it more invaluable, it would make it MORE valuable - thats the whole idea behind it. the current system is.. not that good.

3) Ad a certain point, everything turn to routine in ja2, so i don't see the point in that. every time i train milita for 2-3 days, i let the other 4 mercs repair all my stuff. THATS BORING. The new system would add rapidly degrading weapons. currently you could clean out a whole town in one day/night without repairing any of your gear. maybe evan 2-3 towns. ARS would force you to maintain your gun in the field, or at least to take the heat development into consideration.

4) It's not about knowing wich part gets damaged, it's about how every gun wears off differently. and for every component there would be a special cleaning kit. and those kits deplete fast, like if the barrel has 1000HP max and currently 100, 1 kit would be... mec skill times 10. so we are talking about KITS not a single kit. if you think you must fire 100 rounds of match ammo in full auto from a 30yo m16, than you must face the chance of destroying the gun in the middle of a firefight.

i don't know how the current system calculates the damage an item takes over time, but after 4 playthrougs i couldn't really notive if there's a difference between shooting 100 round in semi or full auto mode. and i NEVER broke a gun or even had it jammed.

the old repair duty can still be used for repairing the other gear. the gain has to be rebalanced, but thats ONE LINE in the ini.

Just check out Aimnas, where the c18/20 armors can only be repaired by using cans of c18 and not with normal repair duty. if you don't like it, don't install ars ^^

Sam_HotteAnd if we want to make weapons more distinguishable from each other by means of reliability, well, we already have reliability and repair ease to deal with it, IMHO.

Again, this system does not care for HOW you use the gun. you can't turn an AR into a MG just by using a beta c-mag. and the current system doesn't takes this into account. the system was good enough for vanilla, with 4 gun addons and 3 types of ammo. but now every weapon has got burst/full auto triggers, is capable of holding 50-100 rounds and so on and on. therefor we need a new system that takes all this new possibilities into account.

Subject: Re: ARS - Advanced repair system
Posted by [KEN C](#) on Fri, 07 Oct 2011 23:05:55 GMT
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@ hombre, Don't let these guys get under your skin. new guys always get the short end around here. just produce some working code and you will get some fans. Quite a few good coders have quit offering improvements over the years because of people like these guys who are all talk and no production.

Subject: Re: ARS - Advanced repair system
Posted by [Sandro](#) on Sat, 08 Oct 2011 00:23:06 GMT
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OLDN000B:
Oh.. uh...

Hombre87:

I wouldn't post my opinion if I wouldn't want to hear your arguments. They are welcomed. And despite OLDN000B seems to believe I criticize your project just because you are new (well, I am new too anyway), I can assure you it's not the case. I just study your concept.

It's still obscure to me, how exactly would your project work ingame. I mean, how exactly it will be "felt" by the player, and how exactly he'll enjoy its presence.

Maybe my translation of it is inaccurate, but it doesn't seem intuitive enough to me, expecially the thing with special kits. Having 3 types then.. and as you say, they deplete fast.. does it force my squads to carry a large quantity of kits to keep my guns operational?

I would be happy to have some large weapon-toolbox different from the standard toolkit, for some special treatment for my guns, but being "forced" to carry a number of types of boxes is different.

One thing, that I agree, is about the LMGs being overshadowed by ARs with C-mags. I am trying to work a solution to give LMGs their place too, by different means, but distinguish them more would always help.

The different tab with weapon parts might also be interesting, we could introduce the "weapon-craft" - being able to manipulate the parts, we could replace some of them to make different guns or just tweaking them (SCAR,...). (Of course only according to reality, I don't mean any magic-weapon-craft.)

But with the amount of guns, it would be a real pain to code such a thing... Nah, it may be just impossible.

It's ok that everything turns to routine.. if it's a routine we like.

About the 1) - the overall weapon status, I asked because you didn't mention what will become of it. If you replace it with overheating and pass its functionality to the parts, then it's ok. (Even that overheating as a big issue is not very realistic in the modern arms.)

Well..

Apologize for saying my opinion, but I get it when you showed us the project you wanted the opinion. (On the other hand I see how eager you are to create something and that shouldn't be wasted.)

And, uh... sorry for long post.

Subject: Re: ARS - Advanced repair system
Posted by [Hombre87](#) on Sat, 08 Oct 2011 07:08:08 GMT
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no problem sandro! your post really gave me some new insights and ideas.
But the Stamina/Breath system would be really important for my approach, because i think it uses the IG time (in minutes/seconds) to regenerate the stamina. the easiest way to implement the first heat system could be to make the overall status to go down with every shot depending on ammo and fire-mode and to refill the overall status over time. this would cause the gun to jam if the status gets to low and the heat status would be easily visible.

about those repair kits - i thought i'd make them attachable to those toolkits. every toolkit comes with 4 of every maintenancekits. and there should be a smal container item, the size of a smal medkit, that can hold one of each.

I can imagen that most players wouldn't normally be affected by the heat system if they use trigger discipline and only aim for the head. But i think a mordern rilfe like a g36 should perform better than an old m16. or why have we got soooooooo many ak variants if the 64 yo ak47 would already be perfect?

And with all those new ammo types, there must be a downside to it. you can't just run around and use overpressured depleted uranium rounds without having to worry if it would stress your gun to much.

Subject: Re: ARS - Advanced repair system
Posted by [Sam Hotte](#) on Sat, 08 Oct 2011 15:30:50 GMT
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Hombre87Sam_HotteAnd if we want to make weapons more distinguishable from each other by means of reliability, well, we already have reliability and repair ease to deal with it, IMHO.

Again, this system does not care for HOW you use the gun. you can't turn an AR into a MG just by using a beta c-mag. and the current system doesn't takes this into account.

My experience is different: Whenever i shot burst/auto fire with an AR it deteriorates faster than if i just take single shots. So my perception is that the system does take it into account how i use the gun.

Have you taken a look at one of Wil473's mods (AFS, DL, UC)? IIRC He did increase differentiation in reliability and introduced some sort of maintenance-kit. Unfortunately I do not know, whether his user's feedback was quite in favour of this or not.

Quote:the system was good enough for vanilla, with 4 gun addons and 3 types of ammo. but now every weapon has got burst/full auto triggers, is capable of holding 50-100 rounds and so on and on. therefore we need a new system that takes all this new possibilities into account.

I agree with you that there might be a benefit gameplay wise if the drawbacks of those things would be more emphasized (like: c-mag adaptor decreases gun's reliability by let's say 2 or more, certain types of ammunition add to even faster deterioration and so on). On the other hand dedicated LMGs could start with higher reliability and/or repair ease because of better barrels than the AR they were derived from.

JFTR: I am not bashing your ideas nor efforts nor attacking you in a personal way. I am just sharing my thoughts on the idea/topic as I guessed you wanted to get feedback.

Subject: Re: ARS - Advanced repair system
Posted by [Hombre87](#) on Sat, 08 Oct 2011 20:47:53 GMT
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Sam_Hotte

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1) I just tested it, 100 shots match from a g36k fired in single shots made the gun go from 98% to 94%. in 3rd burst from 98 to 93% and in full auto 96%! so this is random and doesn't take into account what ammo is used or the way the weapon is used. and a loss of 4% after firing 100 rounds is way too slow for this game. according to this you could fire 1000 shots in burst mode, before the overall status decreases to 50%...

If you want LMGs to be more reliable, then go on and edit the xml to your likings, but that has

nothing to do with this mode. NO ONE is forced to install this mod and it's not my intention to get this idea/concept of mine into 1.13 or smp or whatsoever. it'S just for those guys out there who think it'S a good idea and would be willing to play this. and heck, even if no one else wants to play this mod, i would be happy as hell if there are enough kind people here to help me build this mod just for MY PERSONAL ENTERTAINMEND. And if other people want it to, i'd be more than happy to share my code with them!

Subject: Re: ARS - Advanced repair system
Posted by [Sam Hotte](#) on Sun, 09 Oct 2011 12:34:49 GMT
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Understood.

Subject: Re: ARS - Advanced repair system
Posted by [Hombre87](#) on Tue, 11 Oct 2011 18:02:29 GMT
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so at the moment i'm digging through tons of code. if someone would like to help, i could use some barrel pictures, triggergroups etc. i'm not very good at doing pictures.

Subject: Re: ARS - Advanced repair system
Posted by [Gorro der Grüne](#) on Tue, 11 Oct 2011 18:13:22 GMT
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just a question why prefer the "Frogs" in Aphgany the old AKs instead of the new, more sophisticated and oc more reliable "h

Subject: Re: ARS - Advanced repair system
Posted by [Hombre87](#) on Tue, 11 Oct 2011 21:16:44 GMT
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don't wanna go to far OT, but maybe it has something to do with this:
<http://defensetech.org/2010/03/01/taking-back-the-infantry-half-kilometer/> ?

Subject: Re: ARS - Advanced repair system
Posted by [usrbid](#) on Wed, 12 Oct 2011 10:04:28 GMT
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Hombre87so at the moment i'm digging through tons of code. if someone would like to help, i could use some barrel pictures, triggergroups etc. i'm not very good at doing pictures.

Smeagol's AIM has a bunch of pics you can use as placeholders. Don't let the lack of correct pics prevent you from writing code. You can put the correct text into the item description and replace the pics later - and we are going to help you with getting the pics right.

Subject: Re: ARS - Advanced repair system
Posted by [kglibow](#) on Sun, 25 Dec 2011 01:00:09 GMT
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Hey Hombre, like your ARS a lot. We definatelly need good overheating system, and guns breaking due to not taking care of them.

I've read through some of the problems posted by Sandro and i think i have an idea.

- 1) Overall gun status should be scrapped. The displayed gun status should be the status of part which is in the poorest condition, to let player know if the gun needs any repairs.
 - 2) If weapon maintnance kits could couse "a bothersome routine" the requirement to use a maintnance kit can be narrowed to only those parts that have completely broken. To make it more real gun parts should have their maximum durability reduced each time they are repaired, some can be repaired 100 times, some 10 (only my guess about the numbers). M. kit would put it back to 100%.
-

Subject: Re: ARS - Advanced repair system
Posted by [Hombre87](#) on Sat, 18 Feb 2012 17:57:49 GMT
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Haha, funny to see how Ja BIA makes use of repairkits

just to let you know: i haven't given up on ars and i'm still working on it!

Subject: Re: ARS - Advanced repair system
Posted by [DepressivesBrot](#) on Sat, 18 Feb 2012 18:42:21 GMT
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I'm not sure how thoroughly you read the forum, so just posting some things that changed since the last activity in this thread and might concern you/your project:

- NMS is on hibernation, so if you're still interested in magazines, it's free to be picked up
 - Flugente released a full fledged heat management system, might want to have a look at that
-