

Teach Me Suspension (Part 11): Upgrading Stock Components

There may well come a time when you begin to reach the limit of your suspension's potential.

There was probably a few "yeah right" thoughts when I said that, but this doesn't necessarily mean that your pace is too hot for your suspension (though this could well be the case if you're going well) but rather that in its current form you cannot get the results that you desire.

It could be that you're on the heavier side and are beginning to use too much of the suspension's travel, or that being very light you're not using enough of it, making finding a good setting difficult.

These things may only materialise later down the line as your pace improves.

As for reaching a bike's physical potential, the ceiling of modern day sports bikes is pretty darn high even in completely stock trim, but owners of older bikes may start to see unwanted handling characteristics that they simply can't remove through setup changes (if they even *have* the means to make the desired changes). Only you can really decide when you're truly ready for an upgrade to your suspension components, and if you're honest with yourself you may realise that that time is quite a way down the road.

However, if everyone only upgraded their machine or components when they NEEDED to, the vast majority of any track day paddock would be filled with relatively old machinery.

Sometimes people just like to make change because they can, and they like new and shiny things. That's ok.

Internal Changes

One of the first upgrades that riders will opt for, because they ultimately give you the best bang for your buck, is to have the shock and forks revalved.

While the piston and seat arrangement in the suspension determines a portion of the damping characteristics, the valve shims offer a substantial amount too.

You won't really call it an upgrade as such, but getting your suspension revalved enables you to change the damping characteristics to better achieve the setup you want.

The shims for revalving are very inexpensive, but sometimes complete assemblies, including the piston for shocks and whole valves for fork cartridges, are often replaced too. Though these parts shouldn't break the bank either.

The biggest cost comes from the labour charges where you are paying for the technician's time and expertise.

The next step up from suspension revalving is to buy complete cartridge kits which replace the stock cartridges with high quality units.

This is the most cost effective way of getting suspension that performs almost as well as complete replacement forks or shocks, because they'll be the same cartridges that do the brunt of the work in a complete aftermarket unit.

As for cost, while labour charges will be lower as the replacement method is more straightforward, because of the cost of the parts themselves, it typically works out to be a more expensive option.

Worth Upgrading Yourself?

If you don't have any of the tools required for the job or any previous experience of revalving suspension components, I would always recommend that you seek professional help so you know with 100% certainty that the job has been completed properly. Added to that is the cost of going out and buying all the tools for the job yourself, of which there are a few.

Replacing complete cartridges is a less daunting job as they are complete units that are replaced, so you don't need to try and disassemble the old units. Though again, if you're unsure, a professional is always going to be the safest bet.

External Changes

different setting changes can have a knock on affect to other areas, it just gives you more to think about when looking to solve any issue or make an improvement.

That's not to say a higher level of adjustment is bad. Just simply something to be wary of.

Another nifty little aftermarket upgrade which concerns geometry is changes to the shock linkage. Stock rear linkages typically have a progressive ratio that tends to stiffen the suspension the more it is compressed.

In order to make the compression ratio more linear, a few companies have manufactured aftermarket linkages that serve this exact purpose. This ultimately provides more consistent spring and damping characteristics over the shocks travel, making changes easier.

Knowing What to Go For

Each bike is different, as is each rider.

In order to begin getting a grasp on which particular valving arrangement, cartridge kit or full suspension component you should go for, the best thing you can do is ask riders with experience of them.

In forums or at local meets, there will be faster guys in the paddock that have already gone through all the research to find what they need. Learn from their experience by simply asking what they think is best.

Suspension technicians will also be good people to ask because they have years of experience in aftermarket upgrades and will have a good idea on what you should opt for.

Deciding why you want to upgrade is obviously your first port of call. Once you know that then it puts you in a better position to make the decision on what to opt for.

If you're just looking for a better quality ride than revalving and/or cartridge kits could be the answer. If you want to go for all out bling, however, then by all means go all out in and chuck in the flashiest things you can find.

Many riders in the paddock will thank you for it!