

Data Logging

(The Old Fashioned Way)

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Keeping track of your bike setup at different venues will save you lots of time and energy the next time you ride there. BRM's resident racer Glen Williams explains the importance of Data Logging – the old fashioned way.

Two of the most important tools in your toolbox are a simple pen and paper.

They are tools that I use regularly and you will see most established riders using this (or a laptop) to record their machine set ups and riding thoughts. Even the stars of GP racing when they come rushing into pit lane babbling about handling or grip, there will be someone in the background either writing, typing or recording all of these comments for future reference and potential machine adjustment.

It is also one of the things that I see very few race rookies and track day regulars doing - and I can't emphasise enough the importance of keeping notes and recording your thoughts on the day.

The Base Setting

A base setting is where you start. It begins with you making notes of the machine's current geometry and suspension set up, this will require a few basic tools and a bit of time to get this initial. This will include basic stuff such as machine ride height, suspen-

sion preload/rebound/compression settings at ends, tyre brand/type and pressures, fuel type, sprocket sizes fitted, plus many other items.

With this done you have your base settings and geometry recorded for the bike. And from here you can begin your study into the vagrancies of the bikes handling and how changes to any of these base settings might improve or worsen the handling characteristics of your bike. Without a base setting you will be lost.

From The Start

So you have filled in as many sections of the machine set up sheet as you are able and now have your base settings written down. You are ready to cruise out onto the track - this is the fun part!

The first part of your initial set up will be the easy stuff that doesn't usually need to be recorded - like getting clutch and brake levers, gear shift, rear brake, handlebars, etc into

a position where they feel comfortable and easy to operate when in a 'race crouch' position.

When starting out with a new bike, one has to keep an open mind on what to work on first in respect to achieving an improved overall handling package. Some machines are better than others 'out of the box' but all machines have strengths and weaknesses. The ones we need to be thinking about are the weaknesses, as these are the ones that you are going to want to improve for a safer machine and hopefully faster lap times.

Making & Recording Adjustments

You've got comfortable on the bike and warmed the tyres up, now's the time to not only

concentrate on your riding but also pay some attention to the machine's attitude and feedback. Does it feel stable under brakes? Is it turning in to a corner easily? Does it hold a line well entering corners and how does it feel in the middle of the corner when you are leaned right over? How does it ride over bumps? Does it run wide on the

exit of corners when you get on the throttle? How is the rear traction?

All of these things (and many more) can be thought about when riding the bike. If you feel that there is a weakness in one area, then you may wish to make an adjustment.

As an example - if the bike is diving too much under brakes and 'bottoming out' you may want to add some front spring preload. Make this change and write it down then go out again and see if you feel an improvement? Does the stopwatch concur?

If there is an improvement then you may well make a further adjustment in the same direction to see if it will get even better again, if it does and you have used all your pre-load then ultimately you might need to fit longer spacers or heavier grade fork springs.

The trick is to work on one thing at a time and make small but steady changes. Each time you make a change you must write it down and after a while you will notice a pattern appearing in your

notes and you will be adjusting the bike in a certain direction that 'feels better'.

Once you are happy in one area, move onto the next most noticeable poorer handling trait that you want to improve.

Patience Grasshopper

When making adjustments on a totally new bike - they can be a little 'hit and miss' on occasions. Often you will make a change and it may appear to make no perceivable difference to the bike's behaviour - nevertheless write it down and move on. It could simply mean that you have not identified the actual true cause of the problem you are trying to solve. Some patience is required in these matters and taking time out to talk to your local suspension expert or an experienced rider will often be all that is needed to provide you with some alternative adjustments to try on the bike in an attempt to solve a perceived handling weakness.

On other occasions you will make a change and make the problem worse! Don't take this as a negative, it is in-fact a positive thing and means that you might simply need to make a change in the completely opposite direction to what you thought was the answer and this may very well be better (no guarantees though!).

Each time you make a change - you must write it down and support this change with a note in your 'comments section' on the set up sheet as to why you made the change. Making changes (both good and bad ones) gives you experience on how the bike reacts one way or another. This comes in handy when you experience differing types of tracks and conditions and allows you to 'dial in' a good setting

much faster than someone who has a lesser understanding of the cause and effects of settings changes.

At The End Of The Day

Come day's end you will likely have a bike that has some quite different settings from what you started with, and hopefully this has translated into a quicker lap time and a more smooth and consistent riding experience.

This is also a time to sit down in a quiet place and go over the changes you have made throughout the day and also the associated written comments as to the reason for the changes made. This gets things clear in your head about where you are up to with the machine's development and where the bike's perceived strengths and weaknesses currently are. Often these notes will get you thinking, and motivate you to make changes to the bike between your track riding days. Things like spring rates, oil levels in suspension and more substantial geometry changes to the bike can all be done in the peace and quiet of your home shed - with a goal to improving the bike for your next outing (remember to write them all down!).

Another thing to keep in mind is that as you improve some aspects of the bike's handling and you begin to circulate faster - this may well expose another trait in the machine that previously didn't exist. This means that the changes you have made should not be considered to be 'set in stone' and should always be open to further adjustments in your quest to find you're 'Zen' of motorcycle handling. **BRM**

OTHER VARIABLES

Notes on other non-motorcycle items also need to be kept. The weather conditions (particularly temperature and wind direction); is the track condition wet, damp, dry, dusty, or dirty? Your engine's state of tune - is it good or bad? Your own health - do you have a cold or an injury? All of these things often seem irrelevant at the time but when you next visit the same track and review your previous performance to the days current one, this information has an effect on whether you are truly comparing apples with apples.

Your riding speed will also need to be consistent to achieve reliable feedback data. If you are simply wandering around and not pushing the bike hard through the corners - then making any changes will be effectively a waste of time - as many of the changes will have no resemblance to how they will in-fact work at a faster speed.

