



# **Observation: Bringing The Hazards Out Of Hiding**

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# Observation: Bringing The Hazards Out Of Hiding

**O**bservation is seeing and essential to a rider's safety. The hazard you don't see is the one that you won't react to and may kill you.

So a rider carries out observation via a continual scan of the roading environmental ahead and behind him.

That observation, in the main, covers the area to the event horizon. The event horizon is the distance you can see to be clear or a point at which the road become not clear (an intersection). It is not the complete distance you can see.

When the rider observes something he may or may not perform an observation response.

An observation response is an automatic reaction to the accurate noting of events with regard to cause and effects.

In other words, your subconsciously grooved observation habit triggers a subconsciously grooved hazard avoidance reaction.

When you start doing this, you are rapidly becoming a megarider.

But, the first step to implementing observation habits is to

The Megarider bases his riding decisions on an on-going assessment of the ever-changing scene in front of, at both sides and to the rear of his motorcycles. He makes driving decisions, based on the principle of safety for himself as well as other road users, methodically and without hesitation.

The Megarider's riding plans and decisions involve a combination of:

1. What he can see.
2. Anticipation of what he cannot see.
3. Whatever can reasonably be expected to develop in all situations.

Because of New Zealand's topography, with its hilly terrain and winding roads, the Kiwi megarider can rarely base his riding reactions on decisions made due solely to what can be seen because both terrain, roads, and traffic conditions usually don't permit an unobstructed view.

In other countries, with less view restrictive topography, riding can be easier, although where there is a large amount of traffic, this can create the same sort of problems.

Where the rider doesn't have a clear view, such as around bends and curves, approaching the top of a hill, behind trees and buildings, in areas of deep shadow, where roads converge, or where traffic obstructs the road beyond, the Megarider will implement a temporary riding plan, which he can adjust from moment to moment depending upon what comes into view. This temporary riding plan must, of necessity, involve a large margin for error.

Perhaps the greatest clue to the ability of a rider is given by the rider's ability to smooth nullify and avoiding potential hazards. To do this in the normal traffic environment, the rider must understand and practice good observation habits and these are quite a high level skill.

Observing and identifying is not the same as seeing. Riders tend to rank things they see by priority. Thus, a hazard (or a good looking

blonde) may be a priority, while a large dark patch on the road surface (oil?) that is away from the bike's line of travel may be seen but discarded from the mind as not a priority, concentrating on them.

However, to avoid hazards, you must be able to see them. So, if you can't see clearly, slow down!

Two major causes of delayed "seeing" of a problem are:

1. Not paying attention to what you are doing (day dreaming?).
2. Obstruction to vision.

**Remember,**

**Observation = Time = Choices**

**What you don't see can kill you.**

# Depth Perception

An important part of observation on a motorcycle is depth perception.

Depth perception allows us to judge both our speed, the speed of other objects in the roading environment, and the closing speed between our bike and a hazard.

To get useful depth perception, our eyes must be moving in order that we not only see the moving objects but also the immobile reference points that allow our brain to deduce the speed at which we and oncoming vehicles are travelling.

And we have to see and act on early warning signs rather than act at the last moment.

One example of the dangers of not doing this is where road works signs have been placed well before a road works zone, but the rider only responds when the actual construction activity comes into view.

Consequently, he has to brake heavily, increasing the likelihood of lowsiding on a loose surface and the possibility of being hit by a car not expecting his sudden braking.

Depth perception is not simply carried out. To be carried out to the maximum it requires not only a knowledge of the movements of overtaking traffic, but also following traffic in order to give the rider the *big* picture.

Thus, to get full depth perception, the rider relies not only on his or her forward and peripheral vision, but also glances frequently in both mirrors and constantly considers this bike's overall stopping distance.

# REAR OBSERVATION

**W**hy do we look behind?

When you ride on the road you need to be aware of what is happening all around you. Not just in front or to the side, but behind you as well.

You are vulnerable in a rear end collision, so, before you change speed or direction you must know how your actions will affect following traffic. You also have to know when traffic is likely to overtake or come alongside you.

Rear Observation means checking what is behind you and to the sides by looking over your shoulder and/or by using the mirrors.

As part of his use of rear observation, the megarider establishes a knowledgebase and routine to answer the following questions:

- What he should be looking for?
- Where he should be looking for it?
- A rule of thumb for what can be expected to be scene and what the implications are if what is expected to be scene isn't what is actually seen.

The megarider knows when he should look behind. He knows that he should look behind before he:

- Signals
- Changes speed
- Changes direction

This includes, for example, looking behind before he:

- Moves off
- Turns right or left

- Overtakes
- Changes lanes
- When he and/or other traffic is slowing or stopping
- Approaches a hazard

If you don't what is happening around you, including behind you, how can you plan your actions to take into account whatever hazards may be behind you?

Remember that you have to Scan, Plan, and then Act!

This requires you to be pro-active, rather than reactive.

Put yourself in this situation. You round a curve and find a badly placed set of temporary traffic lights with a queue of cars waiting for them to change. The signs warning of traffic lights ahead were not there and the traffic in front is braking hard for the traffic lights ahead. This means you have to brake hard, as well.

This isn't a great time to look behind.

What should you have done? Yes. Before rounding the blind curve you should have done a rear scan. That way you would now know already what is behind you, about that car right behind you? Knowing that the car is behind you means that, when you see the hazard, you can devote your observation to finding an escape route rather than doing a rear scan.

Riders who have been riding for years were often taught to look over their shoulder at every possible opportunity. With an improvement in mirror technology, both in size, positioning, and clarity, there has been a change of emphasis to a greater use of the mirrors.

If you ignore the mirrors and turn your head all the time, then you are unnecessarily taking your eyes completely off any danger you are riding into. For this reason, keeping a general awareness of what is happening behind you is best done via the mirrors.

Adjust your mirrors so that they give you the best possible coverage. Adjust the mirrors so you can see just a sliver of your sleeve in each mirror. Keep the mirrors clean and use them.

Some mirrors are a convex shape to give a wide-angle view and, just like the wide-angle lens of a camera, they distort distance, making vehicles appear further away than they really are. This often makes it difficult to judge distance and speed although, with practice, most riders subconsciously compensate for this.

The greatest danger arises when you ride another bike with a different shape of reflective surface mirror.

When using them, use both. This establishes what is happening on both sides behind you so get the big picture of the hazards behind.

Mirrors should be scanned regularly, even when riding on a straight road where no hazards appear to be present.

On the open road, a good rule of thumb is to scan the mirrors at least every ten seconds or so. This will update the 360 degree mental map that you should be keeping in your head. Ignoring the view to the rear will mean that, sooner or later, something will take you by surprise, when it can create the greatest havoc.

It's true that a good set of mirrors do much the same job of gathering the same information as the old fashioned turn of the head, without



needing such a long look to gather the information needed. And they will also leave you with peripheral vision into the direction you are travelling.

But they cannot help you look into the blind spot.

That's what head checks are for.

### **Adjusting Your Observation To A New Bike**

**S**o you've bought a new bike.

As well as adjusting to its ride, you have to adjust to its observation characteristics.

Is it higher or lower than your old bike, meaning you can see more or less? Does it have a fairing or windscreen that blocks the view of the road surface more or less than your old bike?

Does it have circular convex mirrors that show more of the road behind than flat mirrors. If you are not used to these mirrors you will be disconcerted for a while because they also make objects appear farther away than they actually are.

If you have never used convex mirrors before practice using them by stopping and picking out a parked car behind you. Try to guess how far away it is, then turn around to see how accurate your guess was.

And, especially with convex mirrors, make a point of allowing extra distance when changing lanes - and signal every time.

# Head Checks

**M**irrors also have three blind spots. These leave a hole in your 360-degree mental map. A head check into the blind spot fills in this missing information.

Where are the mirror blind spots?

One is immediately behind you. On a sportbike with fairing-mounted mirrors this can be quite big enough to hide a police car, let alone another motorcycle.

The other two blind spots are potentially more life threatening. They are just to the rear of the bike to the left and right. In these positions hide the vehicle that you pull across in front of when turning or lane changing...

There is only one answer to blindspots - to carry out a head check.

There is some confusion about how to perform a "head check".

Some riders think a head check is a full turn of the head to look behind.

The problem is that it takes a considerable amount of time it takes to make a full turn your head, focus on the road behind you and to turn your head back and return focus onto the road in front.

Doing it properly takes between one and two seconds. Even at the miserly speed of 30mph this means that you have gone a long way while looking the wrong way.

Furthermore, riders of sportbikes with lowset bars or riders with any kind of neck problem find it almost impossible to look all the way behind.

Also, as you turn your head hard, you can sometimes take the bars with you, causing a nasty wobble in the process.

In nearly every case, an old fashioned full turn of the head to look to the rear is probably best avoided, particularly in traffic or when travelling at speed. About the only time that you really need to check behind all the way is when moving off. At this time, especially when moving off into traffic, a mirror check can give a false impression of distance and speed,

Another possible need for a full head turn is when you need to confirm the speed and distance of a car closing up behind, before you commit yourself to a manoeuvre that would take you across its path. Think very carefully and decide if it is safe before removing your attention from the road ahead.

So, in the average head check, you just flick your head around enough to peek into the appropriate blind spot before you return to forward scanning.

Remember to use head checks when

- Changing position, including turning right
- Changing lane
- Before committing yourself to overtaking

Where do you need to look with a head check?

There are two simple rules. Look:

- In the direction we are about to move
- Into any space big enough for another vehicle to occupy

So, if in any doubt, look over your right shoulder before moving or turning to the right, and over your left shoulder before moving or

turning to the left. If you are changing lanes in a one-way system, a head check into the blindspot in the lane you are about to move is required.

Before overtaking, a glance you are about to enter makes sense.

When turning left in slow moving traffic, head check left. If you ride in a town with many bicycles or delivery mopeds, it is obvious why you need to do this.

On roundabouts, the danger is usually that you have to leave a gap on one side or the other, and someone will try to fill it - so look that way!



## The Lifesaver

**T**he Lifesaver is the glance over your shoulder you use before you move into a blind area, such as when changing lanes. It can save your life.

This is probably the most important head check, and one that fully deserves to be called a Lifesaver. This is the final, quick sideward glance before you manoeuvre. That glance will confirm all the other observations that have been used on the run up.

The Lifesaver tells you what is happening just behind and alongside you before you alter course.

The glance must be carried out early enough that you still have time to react if it isn't safe to perform your manoeuvre, but not so early that someone can sneak into the blindspot in the meantime.

If you are already in the middle of the manoeuvre when you look it's too late!

Situations where a Lifesaver is vital is where there is potential conflict with cars and, even more importantly, where other motorcycles may be closing up from behind and passing to the side of you.

This means you should use Lifesavers a lot when riding in a group.

# Combining Head Checks And Mirrors

**I**t is important to understand that making a head check into the blind spot doesn't mean you don't need to do a mirror check and vice versa.

A head check will not allow you to see many of the areas you can see in the mirror and vice versa.

So, while only the mirrors are needed in most riding situations, when you need to check the blind spot, you also need to know what is behind you in the area covered by the mirrors but not the head check.

The trick is to combine both observations - you should be able to glance in the mirror and then continue the look around into a head check in just a fraction more time than either on their own takes.

There is hidden advantage of head check. The turn of the head can alert a following motorist that you are about to do something. Sometimes, this means that they will back off - but don't rely on it!

You can use it for psychological control as well. If you are being followed too closely by a car, a pronounced head turn tells the driver that you know he is there, while a pronounced turn of the head and a hard stare back at the driver (when it is safe to do so) can give the tailgator a very clear message.

Rear observation should be worked on until it becomes automatic. Constantly ask yourself what is behind you. If you don't know at all times, you need to improve your rear observation!

Part of the skill of rear observation is knowing when it is safe to look.

It is obviously unwise to look rearward if your attention should be focused on what is happening ahead.

This is often forgotten by experienced riders, yet it's very important.

And remember, just looking isn't enough. Whether you look in your mirrors or over your shoulder you must:

- Act on what you see
- Think about how your actions will affect following traffic

And remember, it's the little things that can sneak up on you from behind. You will almost always see the truck or bus coming up behind and cars are easy to spot, as well. But it's too easy to suddenly find a motorcycle or a bicycle behind you!

It is vital that you time your rear observation carefully. If you look over your shoulder or even in the mirrors too often or at the wrong moment, this can be hazardous. In looking behind you, you don't want to:

- Lose touch with what's going on in front
- Run the risk of veering off course

At high speed or in congested moving traffic, your attention needs to be mainly focused ahead. In these situations your rearward checks need to be carefully timed. Many riders look behind them when it is inappropriate, if not downright dangerous.

When a car pulls out of a side road in front of you, and you have an emergency on your hands, you have far more important things to worry about than what is behind you.

If your mental map has been continually updated by mirror checks, you *know* what is behind you!

Time your checks to fall into *safe* periods of riding - in heavy town traffic this will mean grabbing opportunities as they arise rather than by doing it by rote.

Make your rear observation count. Avoid prolonged rear observation and don't do two rear observations where one will suffice.

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