

GRAVITY SPORTS RACERS MANUAL



RACERS MANUAL

INTRODUCTION

Competitiveness is one of the most common, and oldest, of all human traits regardless of the type of competition in which an individual is competing. Team orientated sports often fulfil a competitors need for competition with them finding greater satisfaction as part of a group.

Competitive racing is one of the most common forms of competition and racing, by it's very nature, presents a greater level of danger for it's participants than other forms of passive competition. Danger which engages ones psyche and compels an individual to look for an 'edge' over other racers.

The mental and physical processes for any racer, regardless of their sport are often exactly the same and yet all individually unique in many ways.

It is the individuality of racing preparedness and associated rules and etiquette which this manual will endeavour to explore for racers of all gravity disciplines, regardless of age or level of competition as we believe that racing is 'a learned art that assists natural talent'.

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PRE-RACING PREPAREDNESS

Physical

The birth of a racer occurs when an individual sees his/her chosen sport for the very first time. Even though the individual has no racing experience at this stage, subconsciously they have already taken an important first step towards competing in their first race...thinking about it! All of their physical training and race preparedness such as learning how to corner, drafting, pack riding, leading and following, must all be considered as foundation activities and vital aspects of their physical preparations for any future event.

Watching

When first beginning to learn about your chosen sport, whether it be a 'racing' orientated sport, a team sport or even a genteel sport such as chess, your educators/instructors/mentors will ask you to watch first and to begin to form a very basic understanding of the nuances and intricacies of the sport.

The practice of watching the physical, while being educated via your observational senses, establishes a structure/process within you that assists you to learn about the nuances of your sport. The process of observation and sensory programming will remain with you throughout the entirety of your sporting experience.

This process is extremely individual and every person will assimilate the information in a different way with varying levels of success. A visual presentation with minimal audio information may assist some individuals while a greater audio description may suit others.

Whichever is the best process for you, be prepared to allow yourself to follow that learning path and develop methods that allow for the information to be retained and drawn upon easily over time. Not acknowledging these systems or methods will hinder your progress and greatly retard your growth and understanding of that which you are trying to control.

You have a responsibility to learn in a fashion which allows you to gain as much information as possible regarding your sport while taking that information and building upon it over time. It is what underpins the notion of experience. This is particularly true when it comes to racing in a group or pack as your physical wellbeing is not your only concern. You are responsible for the physical well being of every rider you are riding with.

Knowing that they also follow the same rules of engagement will in turn help build your confidence and respect of everyone around you. This obviously applies to free riding with friends or racing with competitors regardless of the gravity discipline.

If you accept this responsibility right from the beginning of your gravity education then you will achieve two very important milestones: You will earn the respect of fellow riders and racers as well as preparing yourself mentally to adapt to different scenario's that may occur while riding/racing such as crashes, changes to race lines, or simply recognising drafting and passing opportunities.

When learning your discipline, watching or following is an accepted and encouraged part of the process. However this scenario can also cause a detrimental aspects of your individual learning if not addressed early. Quite often riders fall into the habit of constantly following other riders down a hill, especially those riders with a greater skill level.

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PRE-RACING PREPAREDNESS

Understandably many rider wish to to learn about the skilled riders 'secrets' such as what lines he/she is taking, when or how late they brake, how they position their bodies in a drafting situation or simply how they corner.

Following another rider will certainly provide valuable information to you regardless if you are a beginner or a skilled rider, however the downside of diligently adopting this strategy as your main form of learning can often have a negative result with you beginning to ride like another rider!

In fact, it may actually be stifling a better formed rider within yourself. It will also fail to provide you with the valuable knowledge and experience of leading a pack, managing your own pace and understanding the limits of your own capabilities within a race or free riding environment. This is not only a dangerous scenario it has the potential to harm your long term approach to riding and racing.

If we put this into context, think about riding your favourite hill with a group of five or six friends. A couple of friends rollout first and you take off behind them in your usual pack position and mental head space.

Halfway down the hill, at potential speeds of 100kph (60mph), the riders in front of you make an error and you quickly find yourself leading the pack (a pack position in which you are not accustomed). You brake reasonably quickly on a section of the road where braking is not required, surprising the following pack of riders and forcing them to make corrections to their ride/race lines that they weren't anticipating to make.

The two riders who are accustomed to leading through this section and whom are now drafting you, slam into the back of your bike or board incurring injury or worse. You are now responsible for those riders (along with the injuries incurred) due to the obvious 'gap' in your mental and physical preparations.

Being the first one to roll off when riding with friends is a vital building block of knowledge and experience for when you one day lead a pack in a competitive environment. If you don't know how to lead, you won't know how to win!

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WATCHING EVENTS

Watching opponents at an event should be part of your race preparation protocols and be undertaken in order to gain a greater understand of the 'head space' in which your opponents may be in prior to your race with them.

This practice should also apply to free riding or any scenario where there are more than one rider/race on a given road/course. Watching opponents at events has some similar attributes to watching others when free riding such as understanding lines, rider form, etc.

However in a race scenario emphasis should be placed upon different aspects of your fellow riders actions and demeanour. This will be discussed further in the 'Mental' preparation section of this manual.

Mental

For many top athlete's mental preparation for an event doesn't just begin on the first morning of the first day! It has started long before this and in many cases months prior when the racer first entered for his/her event.

For many top athlete's, their mental preparation also begins prior to their physical preparation. The two aspects of preparation are of course interconnected and each requires the other in order to achieve the greatest level of success for a rider. Knowing how and when to bring each aspect together is what makes the difference between a good and a great rider/racer and what creates a 'complete' athlete.

Physical preparedness for an event should not be limited to thoughts of stretches and pre race exercise, it encapsulates all physical actions required to assist your mental confidence and preparation for racing.

This could include actions such as stretching and exercise, testing your body position on your machine, analysing your vision or strength that day along with any other strategy or action that supports a confidence and understanding of your physical condition. Equipment checks, having your favourite music on hand, wearing your lucky underwear, good luck charm, or some other pre race ritual may also be vital to YOUR physical preparations.

Many media or race commentator's often joke about a rider losing an event due to the exclusion of a lucky charm or favourite pair of red sock and there is more truth in that statement than most may realise!

Of course there are no such thing as lucky red socks, however, not wearing them may change a riders pre race preparation and be supplemented by some other strategy in the pre race ritual. Putting on lucky red socks is part of a process, a process which, if altered, can often disrupt the conscious or sub-conscious confidence or habit of a racer and which in turn, could be detrimental to his/her racing state of mind.

In a world where fractions of a seconds count, the distracting of thought could mean the difference between winning and losing. Many of the worlds best athlete's have this pre-event/race ritual down as habit allowing them to focus on other aspects of their environment or equipment more effectively.

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WATCHING EVENTS

Having accepted that as a racer you have a physical process or ritual associated with your riding/racing, you must now bring your mental and physical process's together in order to create the best possible foundation for your event/ride day.

As previously mentioned, watching your opponents at an event is a physical action, however, it is also a major component of an individual's mental process in preparation for riding/racing. How are your opponents/riding partners acting? Are they relaxed or agitated?

Do they seem to move freely or do they appear to have an injury? These two observations will probably be the most important of all a riders observations in a competitive environment but there are many more that you will learn to make over time in order to improve your chances of winning.

Pre race mental preparedness will obviously be negatively effected by influences such as equipment malfunction or failure, but it is also an important quality to be able to compartmentalise or categorise the various kinds of 'distractions' into those that you can observe and those that you can actively control.

The above two scenarios (equipment failure and competitor state of mind) are two separate entities that will need to be placed within the correct framework in order for you to have any sense of composure and control over them.

In most cases you will have very little control over your riding partners/racing opponents state of mind and will be simply observing them to gain an understanding of their strengths and weaknesses, inconsistency of their riding ability, effectiveness of their equipment, technique and physical capability. You do however, have total control over your equipment failure.

To allow these two areas of your racing preparedness to overlap within your mental preparation, will only result in confusion, a clouding of your judgement and intuitive riding/racing abilities.

The best example of "separation" of race/riding preparedness components, is to compare friends and family within your heart. Everyone in your life will have a specific place within your heart, which cannot be altered or replaced by another person: learn to do this with your racing/riding headspace, compartmentalise every component of your preparation, so that clarity of the physical and the mental, and all that each entails, will remain clear and easily obtainable when you need to draw on a specific component during an event or when free riding.

The second component of your mental preparation is your emotional state and control over your emotions. There are two main schools of thought on this area and both are poles apart from each other.

The first school of thought places emphasises on the "calm state of mind" and is based upon removing negative emotions from the race/ride equation in order to make quick decisions based upon the assessment of facts. Eg. Getting bumped during a race but not taken out.

A calm state of mind will allow you to continue to strategise the balance of the race and contextualise and overcome the incident quicker. It will allow you to direct your energy into positive actions such as assessing the next passing opportunity, knowing when and where to draft next and possibly what the other rider or racer is thinking based on their experience of the bump.

This concept can be applied to every aspect of your race/ride preparation and being able to direct and control your day based upon direct information that you have gained from your opponents/free riders, will allow you to become better prepared for the next time it happens.

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WATCHING EVENTS

The second school of thought is the exact opposite and that is to get angry, stay angry and race/ride angry. Some believe that you can use your negative emotions as a form of energy, to keep the “YYAAARRRGGGHH” aggressive factor stoking your racing fires.

The basis of this theory is that by riding/racing angry you will focus and channel all of your energy towards executing any and all opportunities to win a race/ride. This usually includes forcing a pass, braking late, forcing competitors into a situation they may not have anticipated or generally bending racing etiquette to open up a particular opportunity where there may otherwise not be one.

If the “angry” racer is present during an event or free ride, the individuals whole demeanour will typically remain angry over the course of the days riding and/or racing. When observing your riding/racing partners, this type of racer will stand out above all others with their strategies for the event being very clear.

Win no matter what! As you would expect there are several downsides to any racing/riding strategy and riding and racing angry whether that be the speed at which a rider will tire and loose energy, deterioration of their relationship with other riders or the increase in real or perceived danger for everyone involved in the event or ride day.

This kind of physical and mental environment not only has the potential to make a rider a danger to him/herself but to the many marshals, spectators, organisers and volunteers that are also part of the event.

Having said that, the reality is that some coach's and athlete's promote an “angry regime” in order to compete and possibly win. And while the choice is always with the individual, the writers of this resource would ask that whatever strategy you employ, be sure to take into account the safety and wellbeing of others who may be effected by the decisions you make during the heat of competition.

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STRATEGY

The term 'Strategy' is defined by the Oxford dictionary as 1. Overall plan. The art of planning in war. We believe that the art of strategising is also a taught/learned ability that supports a natural ability to think and makes decisions. A strategy is really about implementing an action or series of actions that will lead a rider/racer to a positive outcome such as a win.

Similar to the concept of calm or angry racing there are two main pathways when formulating a strategy in order to a particular competitive event. A 'calm strategy' will look at the technical side of a racer and how are they feeling, how they are moving while having a perspective on their character, their demeanor and general state of mind.

The 'angry strategy' will look at those attributes of an observed racer/rider however they will not place the same importance upon those factors, they will concentrate more upon the manipulation of their opponents and the overall racing environment.

Some of these strategies might look at the physical size of opponents and the ability to initiate contact in order to form a "passing gate". Other strategies may include 'mind games' such as sledging or worse.

There have been many examples over the years of calm strategies meeting the angry. For the purposes of demonstration, a world class street luge event in the late 1990's can be referenced. After several battles to make the final, 4 riders made the mass final. It was obvious to all that two riders were going to maintain an 'angry strategy' while the other two riders were calm and content to watch the behaviours of their angry opponents.

The expectation by both calm racers was that the angry racers were going to take the lead early or indeed straight of the line (which occurred). The strategy of the two calm racers was to let the other competitors take the lead, knowing that at some stage they would either make contact, slow each other down or crash altogether.

The calm racers used their assessments of their opponents physical and mental condition while acknowledging their environment and the most opportune moments to take advantage of any given scenario.

The two calm racers stayed close to the leading two angry racers and after leaving a chicane, at approximately 1/3rd of the course length, their expectations and strategies were rewarded with the two lead racers coming together and taking themselves out of the race.

In their efforts to use physical force to pass one another, they failed to assess the full spectrum of consequence or opportunity. After hitting the hay bales, the two calm riders were free to exploit the opportunity to claim first and second place.

It should also be noted that both calm racers had remained calm throughout the whole event, showing no emotions in dealing with any other competitors in staging and preparation areas, taking the time to create a state of mindfulness that allowed them to assess their respective situations.

Simplistic analysis? Sure.

However when all aspects of pre-race preparedness are broken down to their base motivations, there are really only two options. Calm or agitated. Once you learn to read your opponents and their motivations, strategising an event will become second nature.

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CONFIDENCE

There is nothing wrong with being confident in your ability or your equipment, in fact it is essential to safely riding and racing. Being overly confident however can quickly end your days racing or free riding and it is extremely important to keep a level head and understanding of the limits of your ability and equipment.

Being overly confident on poor equipment can be as dangerous or detrimental as being under confident on exceptional equipment. It is vital to understand how to have the right balance if you are going to ride safe and be successful.

By acknowledging that confidence has the ability to influence two things;

1. what you are prepared to do and
2. how you are prepared to do it.

By acknowledging your ability and the limits of your equipment you will be allot better off than those that don't.

LISTENING

When racing or free riding you should always pay attention to the advise and actions of those more experienced and skilled riders around you.

Their perspectives have been shaped by years of reading the various situations, environments, conditions and outcomes they have been presented with.

Regardless of their age, skilled and successful riders/racers have learned how to manage their emotions, their fears, their environment and their ego! Recognising the positive contribution that those around you can make to your own development and skills will not only assist you to become a better rider/racer but ultimately teach you how to beat them at their own game!

RACE STRATEGIES

Race strategies are as diverse as they are important. Race strategies can be simple or complex and it can be assumed, with a high degree of confidence, that ill conceived strategies are likely to fail. This particular point is extremely beneficial in remembering when formulating any form of racing strategy.

In many racing sports, a racer may implement a strategy which is legal in order to win, however it may be deemed as highly unethical and not sportsmanlike amongst his/her fellow racers. While the rider may podium the long term adoption of his/her strategy may find the rider/racer loosing the respect of this fellow racers.

Its important to understand the particular racing culture of your chosen sport and the opportunities that exist for you and your fellow competitors to develop a healthy and competitive environment.

But how do you start to identify a particular strategy and what are some of the things that you can look for when considering the best approach?

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RACE STRATEGIES

Start by observing your fellow racers. You may notice that a specific racer is having issue's with his/her wheels sliding or being unstable entering or exiting a corner. You might consider a strategy to get in front of this racer/rider as quickly as possible in order to mitigate the threat of being taken out or slowed down throughout the race.

Alternatively you may choose to stay close to the rider and draft them in order to gain the greatest amount of speed in order to optimise a pre determined passing move ultimately taking advantage of the riders sliding or unstable wheels.

You may even know that a particular rider/racer like to do practice runs by themselves so you purposefully follow that rider on every practice run in order to create a disruption in their mental preparation. What's the difference in these strategies?

The earlier could be considered a great example of talent and skill and deemed acceptable by fellow riders, while the later, although legal, may be seen as opportunistic and unethical.

When formulating possible strategies its important to remember that what may work for one racer/rider may not work for you.

As strategies are formed based on a riders observations or their environment, equipment and those around them, you have to remember that you yourself may be observed.

Strategies are most likely being formed around your own state of mind, riding ability and strengths and weaknesses. Your ability to respond to the nuances of a situation and the ability to not only implement your own strategy, while responding to the challenges of others, is what will determine your success as a racer/rider over time.

WHEN TO START

There is no right or wrong time to start mentally preparing and formulating specific strategies for an event or ride. It will all depend on when you feel that its the best time to do so in the context of your other preparations. Formulating a good strategy is all about getting you into the right head space for racing.

Some racers will begin to formulate strategies once they have become aware of whom they will be racing against, others may wait until they whiteness each of these riders/racers on the day.

Some may even start by analysing the pre race riders list to determine who they will be up against. Regardless of how, when or if you formulate a race strategy, it is about understanding and acknowledging if it will provide you with a greater sense of comfort or control.

Knowing that you have started your pre race rituals may allow you to focus and refine your strategy closer to or on race day.

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WHAT TO OBSERVE

As has already been discussed in this manual, the two main aspects of a racer/riders racing persona can be broken down into two opposing entities; calm or agitated. In order to gain a fuller understanding of an opponents mental state, especially at an event, there are other factors which are beneficial to closely observe if possible.

Is another rider/racer having issue's with their equipment? Are they having issue's with their safety equipment such as leathers, helmets, gloves or shoe's? Sometimes the smallest inconvenience or glitch can become a major part in disrupting an opponents mental confidence and having this knowledge may provide you with the edge that you need.

Other areas of observation may include how a rider/racer is discussing his/her pre race preparations on social media or discussion boards. Many racers/riders may reveal aspects of their preparedness, equipment or even race strategies prior to an event and unknowingly give away valuable information that you may seek to exploit.

The adage 'lose lips sink ships' may apply as much to your own preparation as it does to your potential opponents.

WHO OR WHAT IS YOUR BIGGEST THREAT?

A racers biggest threat is that which forms the largest barrier to realising his/her potential. Surprisingly this may not always be another rider.

As indicated prior in this manual, there are many facets with regards to a rider/racers mental preparedness that have the ability to influence an outcome.

We have all witnessed a rider race a flawless event right up until their final race where he/she loses at that defining moment. The appearance of 'choking' can often be traced back to two errors in their mental preparedness, a riders racers ego/personality and/or their management of pressure.

Ego or personality can often encourage a state of complacency, which is a negative aspect to any racers preparations. Finding the right balance between confidence and ego in high pressure environments can often mean the difference between winning and losing.

The management of pressure is a significant influence in high profile rides or races. Putting too much pressure on yourself at any point in the preparation leading up to a race/ride, or during the race/ride itself is generally a reflection of either loss of confidence, the creation of doubt, or simply managing errors or mistakes.

Everyone, regardless of age, ability, equipment, will make mistakes at some point. Having the ability to acknowledge the reason, situation or environment in which that mistake/error occurred and take the appropriate steps to ensure that you address and improve moving forward is paramount to being a successful, balanced and well rounded racer.

Learn to place previous mistakes behind you and take on board the positives of knowing and learning about the things that make you a better rider. Learning from your mistakes is valid pathway for development and improvement and with any luck the more you learn the less you will make mistakes or errors!

Physical threats to a rider/racer competing at an event can come in many forms. Angry riders who like to get physical or racers/riders who have better equipment may appear as both a mental and physical threats.

Physical insofar as you might think 'I'm going to lose, he has better bearings than me or physical in that you may think 'I've got to stay clear of this angry rider, I'll get taken out'. Whatever form the threat presents itself, it will be based upon, and fuelled by, an emotive fear. Emotive fear can be an extremely strong force for a rider and if not addressed at the time it presents itself, can render a racer ineffective in racing to their full potential.

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WHO OR WHAT IS YOUR BIGGEST THREAT?

If a racer is a physical threat, look at the specific points of his/her riding which makes them a threat. Ask yourself questions; Are they faster? Do they corner faster yet are slow on the straights due to their drafting position?

Do they like “sandbagging” (sitting at the back of the pack, yet still in close proximity to the leader, and pull a passing move at the last possible moment). Work through a logical process in order to identify the threat and then put in place a positive strategy to avoid or mitigate the threat. For example:

Identification: He/she sits wide and brakes late into each corner. Strategy of avoidance: Hold inside race line so that the outside racer must stay wide and run the risk of being DQ'd due to crossing the line of the inside racer. Strategy: Get to the inside line within the first 20 meters of starting.

This methodical style of risk assessment, avoidance strategy and implementation can be adapted and applied to all aspects of a racers preparation and execution.

WALKING THE COURSE

Prior to attending the rider/racers briefing, walking the proposed course (at least once) will offer a huge amount of information before beginning your first practice run.

Many racers will drive a given course but due to the rider/racer being at a different height off the ground than when they are riding their actual board/bike many of the nuances of the course may not be noticed. This is often problematic as it will take you longer to become comfortable with the course.

It will also put you at the disadvantage of those riders who have taken the opportunity to become familiar with the road surface, cambers, race line gates and apex's.

To have a good understanding of the course it is often worthwhile in walking the course at least twice, once down and once up. When walking down the course look for road surface variances such as potholes, rough surfaces and road cambers and take the time to identify your possible or desired race lines.

Walking the corners, look at the spot where you feel the entry to the corner will be and walk the actual race line based upon your supposition of the entry and corner apex. Every corner has two apex's, one is the actual apex and that is the perceived apex. These will be explained further in the race lines section of this manual. As you exit the corner turn around and visualise the line you have just followed.

Often, the perceived corner entry may not be the actual entry and this can only be picked up by looking back up the course (a reverse line of your race line). If your line is wrong, it will easily be seen and you will be able to adjust how you enter and exit the corner.

Some corners may only afford a race line/gate of 500mm which is extremely narrow when you may have four or more racers trying to get through the same corner at the same time.

Other corners may have 'gates' or possible race lines which may allow four racers to go through side by side. Having a knowledge of each corner prior to your practice runs will allow you to formulate two or three possible lines throughout the whole course.

Having this prior knowledge will also allow you to make contingency plans for alternative 'safety moves' if riders/racers crash in front of you.

Many of the best racers will walk down a course first, looking back at the corners all of the way. Upon walking back up the course, double checking their race plan, they would then physically run the whole course from top to bottom.

Even though the speed of running is minimal when compared to the speeds of many of the gravity vehicles, it does allow a further testing of your race lines. It can also be a very important mental tool when you get to the bottom and feel there are no changes you'd like to make to your proposed race lines.

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RIDERS/RACERS BRIEFING

At most major events or races and following the technical inspection and registration process, event organisers will stage a racers briefing. This briefing may also often include all event officials including start and finish line officials, marshals and in some instances, medical and media staff.

The purpose of a rider/racer briefing is for organisers to inform all participants of various aspects of the event, including, but not only limited to, race infringement rules, start and finish line protocols, as well as media and ambulatory protocols.

Even though the information will be the same for most events, its extremely important to attend this briefing as any small changes made by organisers from event to event are important to consider in regards to your race preparation, safety, conditions and formats.

In the case of an injury occurring after a crash, if all parties (racers, marshals, track staff and medics) are aware of the processes and protocols to manage an injured rider/racer/community member, then this will dramatically decrease the chances for further injury while also reducing response times for medics or support staff.

As most racers will attest, while there are comprehensive rules/etiquettes which everyone follows, there are always specific event nuances or considerations that are vital to know if you want to give yourself the best shot of standing on the podium.

While one event organiser may have provided advise in regards to their position on certain race behaviours along with any resulting infringements or penalties, this may be relaxed or amplified at the next event. And while we all seek a degree of consistency, regulation and attitude from event to event, in reality this may not always turn out to be the case.

It is the responsibility of every racer/rider to make themselves aware of every facet of their racing environment at every event they attend. The old excuse that 'it wasn't like this at the last event' is no longer a viable defence when facing a possible DQ in modern racing.

Organisers of course also have a responsibility to inform competitors and officials of all protocols which will form the basis of the racing environment. If racers have relevant questions or wish to raise points in relation to the racing such as track safety issues, infringement clarification, formats or running orders, the racers briefing is certainly the forum in which to present these questions.

A riders briefing is also a good opportunity for the officials to be introduced to the competitors. This not only creates a friendlier more respectful atmosphere, it will also communicate that all officials are there to assist the organiser to stage a safe and successful event for all concerned. It is vital that there is an opportunity for all parties involved to establish trust and build a rapport prior to entering a competitive environment.

The riders briefing may also be the first opportunity that competitors have to observe other competitors. This is an ideal situation in which to gauge the temperament of your opponents, and their response to the information they are being delivered.

Are they being positive, negative or indifferent to instructions and advise. Are they discussing or forming strategies based on the information at hand? Once again, this may be an opportunity for you to observe and learn. Underestimating the value of a rider /racers briefing may prove disastrous to your event.

There are many resources available to both riders and organisers that will help them make the most of riders briefings including the rider briefing checklist included within the Organisers Guidebook available from Gravitybike HQ.

See: www.gravitybike.com.au/blog/organisers-guidebook/

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EVENT SPECIFIC RACE RULES & ETIQUETTE

As we have previously mentioned, a racers/riders briefing is where any event specific race rules and etiquette's can be discussed. Even so, there are basic rules and etiquette's which, if adhered to, will stand the racer/rider in good stead for any event he/she may attend.

At the start of any race/heat/final there is typically a 'lane' which extends past the actual start line. Whether it is actually marked on the road or race track for a set distance or not, there is a actually a historical precedent that within this lane and for a set distance, that riders will not interfere with any rider for the duration of this lane in any way, shape or form.

Traditionally, offending riders may be disqualified or penalised by the start line official for disregarding this rule. Many modern event organisers fail to mark these lanes out and it would be worth clarifying with race officials if this rule will be in place for the duration of your event.

Once on the start line, there are also rules in place regarding the starting of any race/heat/final. Typically, there will be three commands delivered by race officials at the commencement of the starting process.

Historically this has been the call 'Riders ready. Riders set. Go'. At the command of 'Riders ready' all riders positioned on the start line will prepare themselves to race. Upon the second command 'Riders set' no rider will move, in any way.

If a rider does move after this command that will typically be deemed as a 'false start' by start line officials, at which time the start line official will reset the race/heat/final. If the same rider causes a second false start, he or she will be disqualified. Upon the command of 'Go', all riders will begin moving forward using the correct form of start line actions to gain momentum for the respective discipline.

Once the start line official has released the race/heat/final, no rider should interfere with any other rider in any way, shape or form including holding back another rider or deliberately bumping so as to cause another rider to adjust his or her line or body movement.

If a rider commits this violation, and is deemed a violation by the start line official, that rider will typically be automatically disqualified from the event.

Bumping is a natural part of racing and is to be expected. However, intentional bumping in order to alter the natural end result of a heat/race/final will not be tolerated, nor condoned, by racing officials. Racers who deliberately "bump" another rider in order to cause another rider to change their "racing line", or to lose speed, will also typically be automatically disqualified.

When overtaking or performing a passing move, the lead rider always assumes the responsibility of NOT closing out or shutting down the line of another rider.

In turn, the rider attempting the pass has the responsibility of not bumping the lead rider to such an extent as to cause the lead rider to alter his/her race line. To this end, the following rule applies, and will be used as the guide for a disqualification decisions by most officials.

In a passing move, whether it be the entry, apex or exit of a corner, it is assumed that the lead rider will be aware of the rider attempting the pass on the inside or the outside of them. Once the passing riders feet or equipment are level with the lead riders eye's, including the peripheral vision of the lead rider, the lead rider must allow the passing rider to continue making his move, and in no way, alter the passing riders racing line.

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If either rider can be proved to have effected a change of race line to the other rider in a negative way (Eg. causing the non-offending rider to crash or lose speed) the offending rider will be automatically disqualified. This rule also applies to passing moves in a straight line.

In the event of a crash (causing a rider to become unattached to his or her vehicle) it is also important to note that the rider who has crashed will pick up his or her vehicle on the event course at a point directly parallel to the point of vehicle retrieval.

The rider WILL NOT advance his or her position by moving forward of the point of retrieval in order to better their position and create a possible unfair advantage over any other rider who may have been involved in the same incident. If a rider does advance their position from the point of retrieval, the offending rider will also be automatically disqualified.

Following a crash and as riders begin riding/racing away from the crash scene, they are only permitted to use the technique allowable at the start line for their discipline, to begin gaining momentum once again.

Any variance on this technique will result in the rider being automatically disqualified. For example, a street luge racer must sit on his or her board, and using one or two hands, paddle away from the crash site.

Riders should not use hay bales, sticks, branches, other riders or any immovable object to assist them in gaining momentum following a crash scenario. Any offending racer will be automatically disqualified.

Following a crash, the rider(s) resuming are also not permitted to interfere with another rider in any way by holding them back, blocking, deliberately riding slowly to allow another rider to gain an advantage or cause another rider to alter his or her course as the second rider resumes racing.

Offending riders will be disqualified. If a supporter or spectator interferes or hinders another rider, the rider associated with the supporter will be held responsible for the supporters actions and will also be automatically disqualified.

RACE LINES

At times contentious, the identification of race lines are especially important to identify in any racing environment. It is important to remember that racing lines are not restricted to cornering only and a race line should be considered any part of the journey that will take a competitor from the start line of a race to the finish line in the shortest amount of time within the least amount of distance travelled. This definition is the basis for all dis-qualifiable offences.

There are however circumstances that occur at every race course which may alter the base definition of a 'race line' and which subsequently alter the understanding of a dis-qualifiable offence.

One of the main factors concerning courses is the course surface or road condition. This may included but of course is not limited to pot holes, rough patches, dips or corner cambers.

Road camber is the 1st dimension definition of a road typology such as the shape of the actual road from one side to the other. Some roads will be relatively flat from side to side while others may have a predominant rise in the centre of the road. Road camber throughout a corner is mainly defined as the rising of the outer edge of a road to form a visible 'bank' or 'berm' of varying degrees.

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An 'off camber' corner describes the camber of the corner being higher on the inside of a corner than the outer. Off camber corners can cause riders/racers that are looking to follow a particular apex of a corner to drift or run wide due to the resulting forces of gravity. This can of course be problematic to those riders wishing to perform a passing move on a particular corner.

The road surface may also determine the accepted race line for a specific event irrespective of where the lower quality road surface is situated on the course such as within a corner or upon a section of straight. Rough patches on a course will often cause racers to lose momentum or in some cases cause a racer to fall from his/her vehicle.

It is vital for racers and officials to identify these areas on the track early, notify all racer and officials and set a predetermined race line/s prior to racing. This will in turn provide the basis for the cirque and implementation of all dis-qualifiable offences.

When the discussion and definition of race lines is being determined, it is the responsibility of the racers to indicate any possible negative road surface areas to nominate their concerns as part of the riders briefing.

Should the area of concern be large enough and may become a possible race line/safety issue, the event organisers should respond to the concern and implement a strategy to address the concern from a safety and racing perspective.

This action of course is at one end of the 'responsibility' spectrum. The other end of this spectrum is wight the racers themselves and their responsibility for deciding upon their own race lines and any variations relating to their own race performance.

What we mean by that is that it is the responsibility of the racer to be looking for any aspect of the course which may affect their race line from a positive (possibility of gaining speed) or negative (road surface causing the racer to lose speed or control of his/her vehicle) perspective.

One of the main factors of all gravity sports which makes the considerations of racings lines different to other forms of racing, is the fact that there is no mechanical power available to racers to enter or exit corners. A riders momentum is governed entirely upon gravity and the manipulation and management of it.

As cornering is the most concentrated point of a race line, each individual corner will dictate the correct (fastest, safest) line for a racer to follow in order to maximise the required momentum to exit a corner as quickly as possible.

Due to this idiosyncrasy, the entry, apex and exit of corners differs slightly to other forms of racing and may be unfamiliar to those racers/riders making a transition from a motorised form of racing. The apex of a corner will always dictate a racers/riders entry and exit line/s to a corner, however it is important to note that every corner has two apex's. An 'actual' apex as well as a 'perceived' apex.

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Figure 1 (below) depicts an actual apex. The actual apex is the apex which is the central point between the entry and exit of any given corner with equal distance between these two factors.

Depending upon the length and shape of any given corner, the actual apex will be considered to be the definition of the race line for any dis-qualifiable offence and subsequent discussion and protest.

Figure 2 (below) illustrates a typical race line using the 'actual' apex of any given corner. The 'perceived' apex of a corner is an apex point which is situated somewhere between the 'actual' apex and the exiting point of a given race line.

Figure 3 (below) has been used to indicate a 'perceived apex' race line while illustrating the difference between a powered vehicle compared to a gravity vehicle. As illustrated, a 'perceived apex' requires a later braking and turning point to establish the entry of the corner, which in turn will generate a longer exiting race line.

Graphics courtesy of drivingfast.com

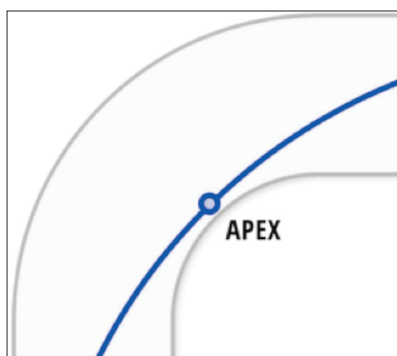


Figure 1.

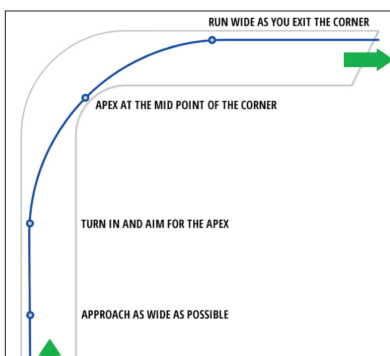


Figure 2.

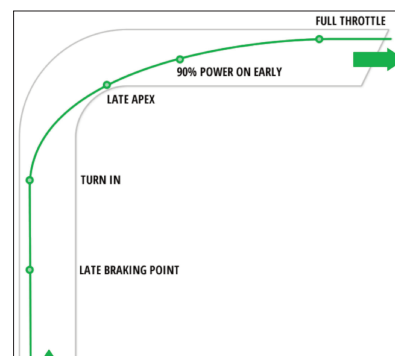


Figure 3.

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RACE LINES

Below is a link to a video which was taken from the head cam of one of the riders involved in a dis-qualifiable offence and which demonstrates where the two different race lines/apex's have come together to negative effect. The video accurately shows the setup, entry and shutting down of the actual race line by one of the riders involved in the incident.

In the hope of clarifying the video, we have provided the following description of events.

<https://www.youtube.com/watch?v=oAQCwK-YF0>

On the start line you can see both the yellow and grey riders are sitting side by side with the Grey rider getting an excellent push on his start. He leaves the Yellow rider in 3rd position as they proceed into the infringement corner (00.18sec) and you can see the grey rider in front, as he sits up to brake and prepares to enter the corner.

At this time, both of the riders are situated in the centre of the road with the Yellow rider approximately 8 meters behind the grey rider.

00.20sec: The yellow rider has begun turning on the race line (which is using the 'actual apex'), while the grey rider has stayed wider and turned later in preparation to use a 'perceived apex' race line.

One of the main indicators that this is an infringement also occurs at the time that the grey rider glances to his left, becoming aware of other riders including our yellow rider. Even after assessing who is on the inside line, and knowing the yellow rider was there, our grey rider continues with his line. This decision results in the grey rider taking out the yellow rider.

00.39/40: At the point of impact the grey rider holds the yellow riders foot under his arm for an extended period of time. This appears to be done to help stabilise the grey riders body during the crash while at the same time hindering the Yellow from following his 'natural course' through the incident.

To be clear a 'natural course' is where a rider and his machine, with no intervention from any other rider, continues on a given trajectory without interference. In the above video, it could be easily surmised that the yellow rider could of potentially continued on with greater ease than the grey rider who was not only unstable on his board but had to contend with the board sliding off of the race line.

To illustrate another example of an infringement resulting from the incident, you can see how the grey rider came across from his race line and without crashing into the Yellow rider, hinders the yellow riders progression by 'shutting the gate'. Shutting the gate refers to the natural path of the race line being blocked intentionally. The grey rider committed an offence and should the Yellow rider wished to protest may have been considered for disqualification.

As demonstrated, using the perceived apex race line is acceptable if a rider is out front with no chance of hindering other riders in any way. When opponents are in close quarters however and going through corners, the actual apex race line will always be the basis for any protest and subsequent disqualification.

RACERS MANUAL

SUMMARY

In summary, this document has been created to assist new riders becoming involved in any gravity discipline as well as established riders, race organisers or general gravity community member.

The concepts, rules and information can be assimilated for use with any of the vehicles of any of the main gravity disciplines including Streetluge, Classic Luge, Standup, Inline, G-Bike, G-Car, Speed Trike and Skeleton.

This manual has endeavoured to explore many aspects of the gravity racing culture in order to provide a basis for ongoing development and professional presentation of gravity sports. It will be added to and built on over time and your feedback and critique is always welcomed and encouraged.

Feedback can be sent to any of the national associations or representatives and will of course find its way back to the responsible parties. For convenience you can email brett@gravitybike.com.au in order to identify an appropriate contact for your respective sport.

As time passes and the various disciplines find themselves adapting to new requests, requirements, technology and design, new racing rules and etiquette's may be created to accommodate change.

We believe however that the basic principles will always remain the same however. There have been many advances in all aspects of gravity racing from vehicle design and construction to riding techniques which is one of the joys of being involved in gravity sports community.

As the legitimacy, volume, frequency, scale and professionalism of events increases, so to will the demand on event organisers and the general community to adopt, develop and understand the various rules and etiquette that underpins or forms the DNA of gravity sports.

Only then will we have a safe, competitive, fair and challenging racing culture and environment. We trust that this manual, along with the various supporting documents, will assist you to join the gravity community and contribute to its positive development and evolution. We may even see you out on the black stuff along the way!

For more information please visit the following resources;

www.theuniversalcode.com
www.brisbanestreetluge.com
www.gravitybike.com.au/info/resources
www.gravitybike.com.au/blog/organisers-guidebook