

How to go Drag Racing at Perth Motorplex



PERTH
Motorplex
KWINANA BEACH AUSTRALIA

HOW TO GO DRAG RACING AT PERTH MOTORPLEX

Preface

Each week here at Perth Motorplex we find we are getting more and more newcomers to our exciting sport of Drag Racing and sometimes it can all be a little bewildering ... pre-stage and stage lights, red light starts, reaction times, handicap displays, break-outs, double break-outs & so on.

However, as you know, nothing is confusing once you understand it... and that's the purpose of "***How to go Drag Racing at Perth Motorplex***".

By the time you have read this booklet, you will be an expert on just what makes drag racing tick. We can't make you an expert racer... that will only come with time and experience, but at least we can give you a head start!

Also, we give you advice on other things, like details the various formats of racing at Perth Motorplex and just how simple it is to get involved.

So, welcome to the wonderful world of drag racing here at Perth Motorplex. You may find after reading this booklet and racing a few times, that you will be hooked on drag racing like the rest of us... and that's how we've planned it!

Ray Treasure

Drag Racing Manager

Let's Go Drag Racing

Entering a Whoop Ass Wednesday street event at Perth Motorplex is where the majority get their first taste of drag racing.

Entry to the event can be done on the day by paying as you go through the Competitors Gate. Your entry fee at these types of events admits the driver and vehicle. We conduct several Theme Type events with discount entry, by sure to keep an eye on the Whoop Ass Wednesday Webpage to see what the theme for each week is - <http://www.motorplex.com.au/whoop-ass/>

After paying your entry fee at the competitor gate you will receive an Entry Form, officials at the gate will tell you where scrutineering is taking place (usually in the Green Scrutineering building on your left as you drive into the Pit Area). Unless you have work to do like changing wheels, it is advisable to get into the line-up for scrutineering as soon as possible.

The Scrutineering Officials will check your vehicle for general safety items and basic protective clothing, there are only a few requirements that are needed to compete at these Whoop Ass Wednesday Street meets.

- a three-point lap sash seat belt (as minimum)
- a helmet in good condition (AS/NZS 1698 or ECE 22.05 minimum)
- long sleeves, long pants (no holes), closed shoes and socks.
- Bikes need a Full-Face helmet (AS/NZS 1698 or ECE 22.05 minimum)
- leather jacket or purpose made riding jacket and long pants as a minimum.
- Leather Gloves and Boots that cover the ankles

You will be required to sign an indemnity form at which time you will have a wristband band fitted by an official. If you do not have the correct colour wristband you will not be permitted on to racing surface. If you have anybody helping you on the start line they must also sign the Indemnity Form to receive a Crew wristband to allow access to the start line area. Your crew must leave the start line area as soon as you have done your run.

After going through scrutineering and having a race number allocated, go straight to the staging lanes. The Scrutineering Officials will put a number (1-9) on the front of your windscreen; that is the lane you line up in each time you want to make a run. Staging Lane officials run each lane in turn so everybody gets a fair go and equal chance of going down the track.

When you reach the front of the Staging Lanes you will be instructed as to which lane to run in. By this time, you should have your Seat Belt on, Helmet on and done up, window wound up and sun rooves closed. Once you get to the area under the bridge the Burnout Official will instruct you as to where to stop and when to start your burnout, if you choose not to do a burnout there is a sign to direct you around the water so you can drive around and proceed to the Start Line once the Burnout Official waves you on. For those doing static burnouts (locking the front brakes and spinning the rears) this is only place you can do this. Static burnouts anywhere else damages the surface, which will bring down the wrath of officials!

As you approach the start line, there are three sets of infra-red beams in each lane. The first is the PRE-STAGE beam, which controls the top light on the Christmas Tree. This does nothing more than let you know you have approx. 200mm (8 inches) to go to the STAGE LIGHT, which is the second light on the tree. The race cannot be started until this light is on, but it doesn't matter if the Top Pre-Stage Light goes out. The final beam is the GUARD BEAM, which starts the timers if the stage beam has not been cleared. This usually only applies only to very low cars such as late model cars with low body kits or spoilers.

The Christmas Tree has a set of independent lights for each lane consisting of 2 small white Globes at the top, the uppermost is the PRE-STAGE lights, then 2 small white globes just below them is the STAGE lights. When your vehicle is properly staged both the PRE-STAGE (top white globes) and the STAGE (2nd top white globes) lights are on and you're ready to give your full attention to the Christmas Tree.

Next you have 3 AMBER lights, once staged and the Starter activates the Timing System each light will flash on in 4/10ths of a second intervals.

Just below the 3rd amber light there is a GREEN (GO) light and below that a RED, (FOUL) light which is activated if you move (forward or backward) before the GREEN light comes on.

When the stage light is on, your front tyre is interrupting the stage beam across the track. If that beam is re-opened before the green light comes on ie you leave too soon or roll backwards, the red FOUL light comes on. While this doesn't matter in Qualifying, Grudge or Test runs, it does however in Elimination Racing as it means you are disqualified for jumping the start.

There is a series of Infra Red Beams at 60 foot, 330 foot, 660 foot (half track) 1000 foot which are used to gauge your vehicles performance during the run so you can see where you have picked up or lost time. These are merely tuning aides, so you see if the changes you made to your set up have made a difference at a particular part of the track. The 60 foot timer is usually the most important as this time reflects how well you are leaving the starting line.

The finish line has a series of two Infra Red Beams. The first is approx. 20 metres (66 feet) before the finish line. The second is the finish line itself. The first set of beams start the Speed Clocks and second set of beams stop the speed clocks and the Elapsed Time (ET) clocks and therefore provides the Elapsed Time and Terminal Speed for the run.

After crossing the finish line (where the Score Boards are located) you should back off and look for the end of the racing surface (600m past the finish line) while steadily applying the brakes, the return road is off to your left and you should negotiate the turn slowly and safely. If you have a problem and cannot stop, don't try to take the corner at high speed - continue straight ahead into the sand trap which will pull you up safely. If your vehicle breaks down and can't leave the racing surface, pull over to the side and switch your hazard lights on. Please note, while on the return road the speed limit is 30 km/h and you must keep to your left as there is two-way traffic.

You pick up your time slip from under the Bridge near the Start line. As Drag Racing originated in the USA all timed distances are measured in imperial measurements being feet with the total race distance being a 1/4 of a mile (402.336 metres). All details of the run are shown - Reaction Time, 60' time, 330' time, 660' (half track) time and speed, 1000' time, 1/4-mile time or Elapsed Time (ET) and speed in mph and km/h. Both lanes are shown on the time slip so you can even compare your performance against the racer in the other lane.

So now you know the basics of racing your car or bike down the Perth Motorplex Drag Strip, this is all you need to know to get you going, the following gets into the finer points of Elimination Racing including Dial Ins and Handicaps.

Types of Racing

Whoop Ass Wednesdays and many other street or grudge events don't actually consist of formal racing eliminations so you can pretty much race whoever you want as many times as you want. These events are about lots of runs and never being eliminated... Just keep racing your mates or anybody until the end of the event.

The next step up the Drag Racing ladder is to enter events where you do some runs to qualify and then true elimination style racing is conducted using different handicap methods depending on just how far up the Drag Racing ladder you choose to go. All Drag Racing activities are sanctioned by the Australian National Drag Racing Association (ANDRA) which means we follow the Rules and Regulations put in place by that Association.

When you enter a major Drag Racing event, there are a number of different handicapping systems used. Some are used nationally, and others are unique to Perth Motorplex.

Group Three "Dial-your-own" (DYO) Handicaps

Roughly 90% of drag racing uses this system and if you are a newcomer to drag racing this is probably the handicapping that you will use.

"Dial-your-own" simply means that you nominate your own handicap time. This gives the slower vehicle of a race a physical head start, which is programmed electronically into our Computerised Timing System. To stop someone nominating a time slower than they can actually run, thus giving an unfair advantage, a "breakout" rule is applied. Put simply, if you nominated 14.00 seconds for your "dial-in" and ran 13.99 or quicker in racing you lose the race. But if your opposition does the same thing the timers award the win automatically to the person "breaking out" by the least amount. This is known as a "double breakout".

"Dial-your-own" (DYO) racing is a very fair form of racing as it doesn't matter how much you spend on your vehicle. It's about consistently running close to you 'Dial In' without 'breaking out' and having good reaction times. DYO handicapping provides close, competitive racing for even the first timer. In fact, some competitors have won a trophy at their first attempt.

Group Two National Class Index Handicaps

The second type of handicap racing is Class Index racing, whereby you race on a National Index based on the performance for your class nationally. With this form of racing, to be competitive, one needs to have their car or bike capable of running close to or under the National Index for the class. Eliminators using this format are Top Comp, Competition, Super Stock, Super Comp & Competition Bike. These brackets are run at National Open events at Perth Motorplex.

Group One Heads Up / Pro Start

The highest form of racing conducted at Perth Motorplex is the Group One Brackets where there are no handicaps. It is known as "heads up" racing, where both vehicles leave the start line at the same time. These are Top Fuel, Nitro Funny Car, Top Alcohol, Pro Stock, Top Bike & Pro Stock Motorcycle. With a Pro Start all amber lights come on at once for the start. This sort of racing takes huge sums of money, great technical and driving skills and only a few racers ever get to race at this level.

Eliminations

Competition in drag racing is most commonly referred to as "Eliminations."

In dial-your-own racing, vehicles are handicapped according to a "dial-in" time nominated by the driver or rider. A good rule of thumb is to use your fastest qualifier as a guide, bearing in mind that at night events, the cooler night air will usually improve your times over runs done in the heat of day. Track officials will mark your "dial-in" on the side window of cars whereas bikes will have a "Bracket Marshal" take your "Dial In" and forward it to Race Control.

Now it's time for your first round in eliminations... For example, let's say you have dialled-in at 16.10 seconds and your competition dialled-in a time of 15.50. With the handicap system, you have a .60 (6 tenths of a second) head start. Before moving into stage, confirm that the handicap is correct by checking the displays on the scoreboards at the finish line. Make sure you know your opponents "dial-in". If you have a question about the handicap, you must advise the starter before you stage. Once you stage that means you have OK'd the handicap and the race result will stand.

Ok, you get in a good run and hold off your opposition to record your first win, you would have seen the Green Win Light illuminate on your side of the track as you went through the finish line beams. Pick up your time slip under the bridge and return to the staging lane allocated for your bracket.

In round two, you run a bit stronger (things like cooler air can increase your performance) and you record a 16.05 in crossing the finish line first. But this time you have lost the race, because you have run quicker than your 16.10 dial-in. The timers award the win light to your opponent and this is shown on your time slip. Don't forget you can change your 'dial in' between each round so carefully consider all the factors that may affect your performance.

Excepting for some special Perth Motorplex formats, Drag Racing is conducted on a tournament elimination format similar to Tennis. If you win, you continue to the next round. If you lose, you have the choice of relaxing and enjoying the rest of the meet or if time permits you also have the option

of doing a few extra runs by lining up in lane 9. There you can do some "Grudge Runs" against others who are also out of the racing. Staging Lane Officials take vehicles out of the Grudge Lane as needed, which is usually towards the final rounds of Eliminations.

Working The Lights

Before diving into an explanation of how to "cut a good light", you must remember three things.

1. Each lane is timed independently of the other, and
2. The timers do not start when the green light comes on!
3. The timers only start when your vehicle moves out of the stage beams

To give an extreme example, if you were to sit on the start line until your opponent crossed the finish line and then leave, you may run a time much closer to your dial-in, but he would easily win the race, simply because he had a much better reaction time - like around 15 seconds better! In real racing this sort of thing happens all the time, except the difference between reaction times is in hundredths of a second.

When you get your time slip after a run, look at your reaction time. Compare it to your opponent. Reaction times work on a simple principle. It measures the time from when the last amber came on to when your front wheel clears the start line beam.

A "perfect light" (.000) meaning that the vehicle has cleared the stage beam at exactly the same time as the green light came on. This is shown on the time slip as .000. Anything less than this means that you left too early and red lighted (fouled), this will be shown on your time card as a negative value. Of course, any value shown above .000 is of course wasted time sitting at the start line. Most newcomers to Drag Racing leave when the green light comes on. This will give a reaction time of around 1 second as it takes time for you to react then more time for your vehicle to actually move forward.

For example, if you pulled a 0.920 reaction time and your competition in the other lane ran a .260 Reaction Time, you have given away over six tenths of a second start right at the start line. For a more graphic example, with two cars of the same performance running 160 km/h (100mph) in the quarter mile, this .660 wasted at the start represents about 6 car lengths at the finish line!

So, lesson number one in cutting a good light is to forget about the green. To begin with try leaving as soon as you see the last amber light. You'll probably be surprised to find you did not red light and when you get your time slip, you will be amazed at the difference in your reaction time. After that it is largely up

to you and your vehicle. You should try to improve your reaction times leaving at different times during the Amber count down until you can run around the .050 second range or better.

If you are puzzled why you can leave before the green light comes on, without triggering the red light... Well, it is to do with reaction times... Firstly, your reaction to a signal, in this case the last amber will be around .170 - .200 of a second. Medical studies have pegged average human reaction times at around this time. Secondly, the reaction time of your vehicle itself - the time it takes from when you stomp on the throttle to when your front tyres move out of the stage beam, this is the main thing you have to compensate for as different vehicles react differently to each other.

Therefore, you can see that it takes almost half the time between the last amber and green to react and stand on the throttle, plus more than this time again, for your vehicle to move forward and clear the start line beam. Naturally, the slower the vehicle, the slower the "vehicle reaction" time is and the earlier you can leave on the lights. This takes practice and as we said earlier varies from vehicle to vehicle....

... and that's it, the basics of how to go drag racing at Perth Motorplex. We hope that by increasing your knowledge of drag racing we can improve your enjoyment of it. Whether you choose to race your mates at Whoop Ass Wednesdays, or you plan to race at a higher level, nothing quite beats the thrill of Drag Racing. You can experience that thrill for yourself at Perth Motorplex! ... and if your good we'll see you at the trophy presentations!



GETTING AN ANDRA LICENCE

The Australian National Drag Racing Association (ANDRA) provides several levels of Licenses.

Day License (DDL)

If you only race once or rarely your entry fee includes an automatic Day License but is only available for cars that run slower than 11.99 seconds and bikes slower than 10.00 seconds.

Super Street License (SSL)

This is the best deal for most street cars (Modern Air Bag Cars slower than 10.00 secs and Early Model Cars slower than 11.00 seconds) and Street Bikes (slower than 9.50 secs). If you have a Super Street license you will have a permanent Racing Number issued for as long as you keep your SSL. You can buy a Super Street Licence as you pass through scrutineering or from the Perth Motorplex office during office hours.

Unlimited Drivers Licence (UDL)

Early Model Cars quicker than 10.99 (Late Model Quicker than 10.00) and Bikes quicker than 9.50 require an Unlimited Drivers License, which involves a medical and ANDRA membership either through a affiliated club or by joining ANDRA as an Individual member.

Group One Licence (GOL)

This is for professional racers that compete in Group One brackets such as Top Fuel, Top Doorslammer etc.

Benefits of having an ANDRA Licence...

Competitors with a permanent ANDRA race number have their details kept on the timing system and their names are printed on the timecards.

Only holders of a permanent ANDRA license number are permitted to compete at Major Events and Test n Tunes.

In addition to the racing benefits holders of an ANDRA licence can also purchase discount passes to major Drag Racing events at 20% off the normal price.

NOTES

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