

# Queensland Ride On Mower Racing Association

Inc 1A40194

## Racing Mower and Equipment Rules

Homologated by the Queensland Ride On Mower Racing Association Inc (QROMRA)

**Ver 4.9 August 2018**

(New Amendments and Clarifications are in Blue)

**Ver 4.8 February 2017**

(Amendments and Clarifications in the past 12 months are in Cyan)

Plain black text are the original rules from before the QROMRA was formed and includes changes that were incorporated over 12 months ago.

After 12 months, all Amendments will change to black and become part of the original QROMRA Rules.

- \* Must be built from an original Ride on Mower and must look like a Ride-On Mower that the public can associate with and recognise. - No hybrids chassis or kart chassis for example
- \* You are permitted to modify the bodywork to whatever you feel is suitable, but it must still look like a Ride on Mower.
- \* You can reinforce and strengthen the chassis if you wish, however, please be aware that these machines don't handle very well if they are too rigid, some flex in the chassis is advisable.
- \* All cutting decks and any related attachments must be removed.
- \* The maximum length of your rear axle is 1 metre long, you can make this narrower if it's more suited to your type of mower.
- \* Maximum mower width or wheel track width is 1200mm.
- \* All moving parts must be in good working order and all nuts must be new Nyloc nuts wherever possible. Please note, if you remove the same Nyloc nut more than a couple of times, it will need replacing as the nylon bush at the end of the nut will seriously weaken and may unwind unexpectedly.

### **Please Take these Rules and Recommendations Seriously** **as Everyones Safety is of Paramount Importance.**

- \* Maximum bottom of Chassis height/ground clearance is 150mm. You should try to get it down to approx 100mm or less.
- \* The base of the seat **MUST** be at least 1" (25mm) above the rear axle, not low down near the chassis Outlaw style. The seat **MUST** also be mounted as low as possible within these confines with a maximum bum level of 400mm from the ground. We recommend you try and get it down to approx 300mm. This is an **IMPORTANT SAFETY** aspect as mowers with too high a centre of gravity roll too easily and you will get hurt, especially if the mower lands on top of you.  
The seat back should be at normal mower seat height of approx 250 - 300mm with lower side supports to stop you sliding out of the seat. Go kart seats are allowed.
- \* A Front bumper must be fitted and must be at chassis height and extend forward beyond the bonnet and front tyres, but must be narrower than the inside of the F/tyres. You may extend the bumper upwards to protect the front of your bodywork, but it must be straight up at 90 degrees and not angled forward beyond the main bumper.
- \* Rear bumper must be at axle height and extend rearward to at least 75% of the rear tyres or rear most body part, which ever is the greatest. You may extend the rear bumper upward, but the main part of the bumper must be at axle height.
- \* Battery and fuel tank to be safely secured or fully covered. Fuel tanks must not be attached to external body panels
- \* All sharp or dangerous exposed edges must have protection i.e. Pinch Weld or car door edging
- \* Side Intrusion bars / foot plates to protect your legs and feet must be fitted. It is recommended to extend them to within 50mm of the rear wheel track width. This also ensures other mowers can't come inside your wheels and roll you over. Protective rails are also recommended.
- \* In all aspects of your mower build, think of the **SAFETY** of yourself, the other competitors, the marshalls, volunteers and the spectators.

## Engines - Standard Class - "A" to "E" Grade:

- \* For mower engines the maximum size is a 32 hp V-Twin. Please note – that when setting up the throttle cable that you bypass the governor and work directly off the carburettor butterfly assembly and that you use a positive return spring, so that if your cable breaks the engine will automatically return to idle
- \* For motorbike engines, the maximum size is 32hp 4 cylinder. No 2 stroke, hybrid or racing bike engines are allowed. Bike engines must be approved by QROMRA before being fitted. Contact your club President who will submit your type and size of engine to the Association for approval. Any size up to these maximums are allowed. **No kick start engines allowed.**
- \* Engines must be of a commercially available type. No hybrid engines will be allowed.
- \* Engines must run on standard pump fuel. No alcohol, additives or LPG to be used.
- \* No forced induction systems such as supercharging or turbocharging.
- \* Fuel Injection is permitted.
- \* Engine Internals must remain in their standard form. No internal performance modifications such as lightening, balancing, camshaft changes or porting heads etc etc. You may fit stronger valve springs and retainers for reliability reasons. V-Twin Briggs motors are known to break their spring retainers and drop valves, with expensive consequences.
- \* Externally, you may modify or change the carb, but one carb off and one carb back on, no twin carbs unless fitted on that specific engine by the factory. You can modify exhausts, mufflers, fit an approved billet flywheel etc. If in doubt, contact us for clarification.
- \* Engine rebuilding to manufacturers specifications is allowed, ie fitting oversize pistons. Keep in mind that you then don't have the option to rebore oversize when the pistons/bores wear.
- \* Juniors : Parents must sign the Indemnity Form, they are responsible for their siblings. Engines must have the throttle governed according to their experience and capability. Before they can race at a sanctioned meeting, both the Parent and Junior must attend 3 Test & Tunes as part of their Competency Test and must be overseen by the Club's Race Director and at least one "A" Grade racer plus at least one QROMRA delegate. At their first race meeting, they will start from the back of the grid to gain some racing experience.

## Engines - Modified Class:

- \* All other aspects of the mower rules apply, (Big Block Class has been removed).
- \* Mower Engines are permitted to have internal modifications such as performance cams, pistons, conrods and modifying heads.
- \* Motorcycle engines up to 450cc and Max 60hp are allowed.

## Exhaust Systems :

- \* It's recommended that mower engines have a minimum 800mm of exhaust pipe prior to the muffler to create the correct back pressure to reduce the risk of burning the valves.
- \* For the motorbike engines, any type of expansion chamber or standard system used on the engine that you are using is advised to enable you to achieve the correct performance from your engine.
- \* If you plan to race at other clubs, please check with them if mufflers are required due to sound restrictions because of nearby residential areas. eg. (FC) Maryborough.

## Driveline :

- \* If you use a mower engine, it is suggested that you run your drive is through a 90 degree box, so that the power from your engine is via a pulley and B-Section belt. Then via a sprocket and chain assembly from the output shaft of the 90 degree box to the main rear sprocket, with your clutch system mounted under the chassis on the drive belt from the engine to the box
- \* Clutch should be belt drive with tensioners for mower engines.
- \* Centrifugal clutches are allowed.
- \* If you use a motorbike engine, it is suggested that you use the correct sized rear sprocket so that you only use 2 to 3 out of the 5 gears available to reduce the amount of time required in changing up and down in gears

## **Wheels and Tyres :**

- \* Front and Rear Tyres must be Ride on Mower Turf Tyres.
- \* Rims may be either Steel, Aluminium or Magnesium that meet racing standards. ie. standard aluminium mower rims are not suitable for the rigors of racing.
- \* Split or bolt together rims are not allowed. Most standard mower rims are not strong enough for the rigors of racing. Only use heavy duty one piece front rims with bearings and for the rear, use heavy duty rims, preferably with a 4 stud pattern as outlined above
- \* Knobby tyres can only be used in some circumstances such as demonstrations, but are normally only good for traction on a grass surface.
- \* All purpose built race tracks in QLD require the use of standard turf tyres front and rear to reduce the amount of damage to the track surface, and as most of these tracks are flat clay surfaces, the turf tyres grip and power slide through the corners very smoothly.
- \* Bald or slick tyres are not permitted. Tyres must have 20% tread available at the start of the event.
- \* Rear wheel mud guards must be fitted and wide enough to cover 75% of the rear tyre tread.

## **Steering and F/Axle:**

- \* Handle bars are NOT allowed, you must fit a suitable approved steering wheel.
- \* It is advisable to build the front steering and axles from scratch. Standard mower F/Ends are not strong enough for the rigours of racing nor do they have suitable steering geometry.
- \* Standard mower pressed rod ends must have a washer attached so it cannot pull out and should not have excessive play. Tie rod ends / Rose joints / Heim joints MUST be of suitable quality and strength.

## **Compulsory Items :**

Each racing mower must have the following items ....

- \* Racing numbers must be at least 70mm in height and clearly visible either side of your mower and where possible at the front and rear as well. The number must be preceded by your club ID, ie CQ59 for Central Queensland, SC59 for Sunshine Coast etc. Please note that if your numbers are too small, not in the correct position or not clearly visible, you will run the risk of not getting any points for your efforts as officials can't see them.
- \* A Kill Switch with a lanyard to attach to your arm or leg and must not exceed 1 metre in length.
- \* Disc brakes that must lock up the rear wheels of your mower when applied, brakes will always be scrutineered prior to any race meeting and sometimes during the day
- \* All critical nuts on the mower body; steering assembly; axle nuts front & rear MUST be Nylock nuts
- \* Rear flashing light and or Rear Brake Lights are optional.

## **Drivers :**

Each driver must have the following items ....

- \* A full faced helmet or motor cross helmet and goggles/visor that complies with AS 1698..
- \* Motorbike gloves or an approved protective glove.
- \* Motorbike boots, racing boots or sturdy work boots.
- \* Jacket and thick long cotton trousers. Racing overalls / suits are the preferred option.
- \* An approved Neck brace
- \* All safety gear worn by the drivers will be scrutineered along with your mower prior to any racing to insure that you and your mower comply with the regulations
- \* It is strongly recommended that you have your own Personal Accident Insurance

## **Tool Kit :**

- \* Each driver is expected to have their own basic tool kit to enable them to do running repairs on their machine on race day.
- \* A basic range of spares is suggested, as follows ....  
Spare drive belt, chain, a range of drive sprockets, spark plugs, wheel bearings, some spare new Nylock nuts, tubes for tyres, your own fuel, oil & chain lube.

**Summary :**

These rules have been developed over many years and ammended to keep up with the progression of the sport. If you don't abide by the rules, you will be put in the Outlaw class amongst the modified race machines, or not allowed to race at the Scrutineers, Clubs and or Race Directors discretion. Some examples - using non-standard Turf wheels and tyres such as go-kart or aluminium Rims and Hoosier/Burris type racing tyres, Hybrid chassis, internal engine performance modifications to name just a few.

If someone genuinely queries the speed and power of your machine and the Race Director deems it a reasonable request, the QROMRA and Race Directors have the authority to request that you prove you haven't done any internal performance modifications with an internal inspection by the technical delegate or designated suitably experienced engine builder.

Like wise, scrutineers and other competitors have the authority to bring to the attention of the Race Director and / or technical delagate any issues such as chassis, rims, tyres etc etc they deem to be outside the rules.

Bullying or intimidation by more experienced drivers or anyone for that matter, over slower or less experienced or junior racers will not be tolerated under any circumstances.

If there is any doubt or ambiguity about any aspect of these rules, or anything you are not sure of, don't assume and interpret it your way. Please contact us by either email or phone for clarification.

**The Spirit of Fun and Friendly Competition is to be Maintained at all Times.**

**Bending or Breaking the rules makes it awkward for everyone involved  
Futhermore, you end up with the embarrassment of disqualification and loss of points.  
PLEASE DON'T DO IT :)**

**Mow On, Race Hard, Have a Ball and above all, HAVE FUN !!!**

For clarification on any aspects of the rules, contact:

QROMRA President :	Jeff Wehlow	0428 349 631	milkman@worldoptions.com.au
Technical Delegate:	Harry Sanderson	0409 594 635	hmow@bigpond.com

Please check for updates on the rules before making any modifications to your mower. This is a living document and as such, may be modified and updated from time to time. It is your responsibility to keep up to date with the latest rules. They can be downloaded from our website. Notifications will be posted on Facebook pages and updates will be emailed to delegates and interested parties.

**Outlaw Class :**  
Ver 4.1 - September 2014

**These Outlaw Rules are Over and Above the Standard Mower Rules  
and must be read in conjunction with the Standard Rules**

- \* First and foremost, to race an Outlaw mower, you must have competed in "A" Grade for at least one year if you have no previous racing experience.
- \* If you feel you have the skills and racing experience to safely compete in the Outlaw class, you may apply to fast-track the process. This will be overseen by experienced Adjudicators consisting of the Race Director, at least 2 experienced "A" Grade or Outlaw competitors who have no conflicts of interests, plus at least one QROMRA delegate. Then by competing at an approved Test N'Tune day to prove your competency, the Adjudicators may deem you competent for a probationary Outlaw licence where you will start from the back of the field at your first race meeting to gain some experience. If it is deemed you are fully competent to race in the Outlaw class, a full Outlaw licence may be approved at their discretion.  
May have over engine steering column to suit low seating position and necessary steering wheel angles.  
For example. Craig Lowndes builds and wants to race an Outlaw mower ????

**General and Chassis:**

- \* Outlaw Mower chassis may be custom built to your own design but must still be based on standard Ride-On Mower dimensions. No Hybrid or commercially available Racing chassis such as Dirt Go Karts etc etc. Although they may be custom built, they must have increased structural integrity and must be deemed safe by suitably experienced Scrutineers, QROMRA Delegates and Race Directors. Special attention will be paid to F/Ends, Steering and R/Ends.
- \* Must have a commercially available Ride-On Mower body and must still be recognisable and look like a modified Ride-On Mower. No Go Kart fairings, wings, ground effects or downforce add-ons.
- \* Either Belt driven or Centrifugal clutches are allowed,
- \* Dual brake systems are not allowed.
- \* Go Kart Rims, Mags and Aluminium rims are allowed.
- \* Grooved Hoosier / Burrell / Dunlop etc Race tyres are allowed, but must be Treaded, no Slicks.
- \* No stock Steering allowed. Must be suitably modified to withstand the rigors of Outlaw speeds.

**Engines:**

- \* Must be commercially available, no hybrids, & run on standard fuel, no methanol, fuel additives or forced induction.
- \* For Mower engines, the maximum size is up to a 32HP V-Twin (50CI).
- \* Performance modifications are allowed but must use original OEM block and heads. Modified combustion chambers, ports, valves, heads, compression ratios, lightening and balancing of components, Race and Re-Profiled camshafts, Billet Con-Rods and Crankshafts are allowed. Modified Mower engines MUST fit an approved Billet Flywheel.
- \* Bike engines, the maximum size is a 60hp motor with no internal performance modifications and must be approved by QROMRA prior to fitting and racing.

Note: A modified mower engine is capable of pushing out 50 to 60 plus HP, and it was debated that it was fair and reasonable to allow bike engines to produce that same HP to remain competitive.

Please check for updates on the rules before making any modifications to your mower. This is a living document and as such, may be modified and updated from time to time. It is your responsibility to keep up to date with the latest rules. They can be downloaded from our website. Notifications will be posted on Facebook pages and updates will be emailed to delegates and interested parties.