



Guide Line to NIMRA Mower Builds

Note:

This Document is a brief guideline and individual clubs near you are able to help with more in-depth building and safety information

NOTE: There is very little difference in the building requirements between the NIMRA group and other organisation also racing mowers. We do recommend you build your mower “body and Chassis frame” to the 1 metre rules thus giving flexibility to participate in outside events

The main differences in this guide line from other published rules are:

In all classes we allow and encourage wheel track to be extended to 1100mm for safety and stability (BUT have the ability to change wheel track back to 1m by using “offset rims” or sliding hubs on the rear and/or front axles)

We allow the FX brand builds to participate at our meetings (they use same engines, wheels, body size, as a class 3 mower, just a fabricated chassis)

We allow full chassis builds in all classes

Affiliated clubs to NIMRA don't not require Greensheeting or chassis identification tags but to meet our obligations under the Health and Safety act, all mowers will undergo a safety check before any race meeting commences

Class 1 Mower

Engines originally manufactured for lawnmowers, up to 28ci single cylinder. Allows internal and external modification, but limits to external modification are: you must retain factory intact manifold and a single barrel lawnmower carb.

Class 2 Mower

Engines originally manufactured for lawnmowers, up to 32 ci single or twin cylinder. Engine may be internally and externally modified.

Class 3 Mower

Engines originally manufactured for lawnmowers, up to and over 32 ci single or twin cylinder.

Engine may be internally and externally modified.

FX Mower

Same as class 3 above expect for chassis built (see details elsewhere)

General Guideline For Racing Mowers

The intention (or spirit) of the rules is that racing mowers must retain the appearance of a ride on lawnmower and incorporate the Bonnet, Dash and rear guards. The mowers can be lowered and modifications made to original chassis or

full build chassis to allow fitment of brakes, gearboxes etc. The use of different ride-on brands of body parts on your mower is acceptable (ie John Deere bonnet, castelgarden chassis, Yardman rear guards)

Driveline: Driveline from the engine to include a v belt to accommodate an operating clutch then chain driven to a suitable gearbox. Right Angle Gear Boxes are recommended for their durability. Centrifugal, Manually operated foot or hand clutches are acceptable

Engine The use of the engine plate from a rideon lawn mower is an advantage in your build as it has pre-drilled holes for all brands and hp ratings engines

Engine Exhaust setup is free to build BUT excessive noise cannot be allowed due to some tracks having noise restriction. A guide would be if u have to use ear muffs at home to tune your engine it's likely to be TOO LOUD.

Rear axle Maximum diameter 32mm (1 1/4") and the use of shaft locks, centre bolts, or thru-bolts to secure the rear wheels / hubs. **Must be solid axle construction.** Rear axle is a key part of a good handling mower and all fixtures to it must be sturdy and secure with approved components

Steering: Free to build front axle setup. The front axle is also a key factor in the success of a good handling mower, time and research should be put into this area All steering linkages must use ball-type or spherical threaded rod ends. Kingpins and wheel bearings to be serviceable and the completed axle unit must be pinned, bolted or welded to the chassis. No suspension, no shock absorbers. The steering wheel pivot point must be of suitable construction and secure.

Front Wheels: Shaft locks, centre-drilled axle with locking bolts, castellated nuts with cotter pins, are acceptable for securing front wheels. E-rings and C-rings, bent nails, hitch pins, over-centre pins and quick-release pins are not sufficient for wheel retention and are not approved.

Brakes: Must use suitable hydraulic rear axle mounted brakes and callipers. no lawnmower transaxle or transmission mounted brakes or front brakes permitted

Body: Bonnets Rear guards and other body parts may be discreetly moved and altered however, as far as practical as much of the original body components to be retained. All mowers must have a hood, chassis and floor, bulkhead or recognisable mower dash console, as well as rear body and rear guards. The objective is to retain the appearance of a ride-on lawnmower by using ride-on mower style bodywork.

Chassis: Full chassis fabrication or modifying an existing chassis is acceptable. Build it straight, strong and add the body parts and good drive gear for a reliable sturdy mower

Front Bumpers

Are not compulsory, but recommended with a centre impact zone of 150-180mm

from the ground and to have rounded edges with no sharp protrusions or bolts.

Being a non-contact sport, Bumpers are to protect your bonnet and not as a ramming devise

Rear Bumpers

Compulsory, rear bumpers must have an effective impact zone between 150-180mm above ground level. The Bumper must have a rear tyre protection area, and to have rounded edges with no sharp protrusions or bolts.

The intention of a rear bumper is to stop a following mower from riding over your rear tyre and being flipped over. It has happened in NZ

Controls: Throttle controls in a position that is comfortable for the driver either foot or hand controlled. Throttle must have two return springs fitted to carburettor linkages and must be attached to the mower in two separate locations and must return to idle when released.

All mowers must have brake controls fitted to either the steering wheel or foot area and be easily activated at all times.

Exhaust: Construction design is open, terminate away from driver, and present no apparent safety hazard and not protrude outside the mower dimensions.

Footholds: Footholds are free to build and should be sturdy to protect lower legs and made such that the foot cannot become entangled in a rollover.

Battery: All positively charged terminals must be insulated with a cover or heavy tape, and the battery must be well secured.

Cut off switch: All participating mowers shall be fitted with an operational cut off switch of an approved type which is connected to the driver by means of a lanyard. Electric fuel pumps must stop operating with removal of the cut-off lanyard.

Flywheels: Factory flywheels must remain stock. No modifications including lightening, or removal of fins

Alloy Fly Wheels are permitted

Sharp or dangerous protrusions: Mowers, which have sharp or dangerous protrusions, shall be deemed ineligible for participation. Glass headlights must be taped or removed. No axle or wheel mounting bolts may protrude beyond the face of the tyre sidewall.

Safety: Mowers must be safe and complete, all parts and panels in place, with no missing nuts, bolts, cotter keys, etc.

All exposed drive chains and sprockets must be fitted with guards, which will direct a broken chain downward.

Rear wheels must be the same size on the axle, and should use shaft locks, centre bolts or thru-bolts to secure wheels to the axle. No dual or tandem wheels. Alloy or steel rims are acceptable

Front wheels must be same diameter and wheel rim diameter must be at least two inches less than the rear wheel rim diameter. The objective is to retain the appearance of a ride-on lawnmower. Alloy or steel rims are acceptable

Rear Tyres: Rear tyres may not be modified in any way with no cutting or re-grooving and be of turf type tread only

Front Tyres: turf type tyres only, no knobblies or ATV type

Ride height: Lowering is recommended and normally 75 to 100mm from ground level is the normal height used.

Seat: The driver's seat must be of reasonable strength and not impede the drivers exit in the event of a roll over. Automotive type seats are not recommended. Getting your seat as low as possible is another key factor in a good handling mower

Race numbers: Not compulsory but then have you seen a race car without a number, just doesn't look quite right

Grandfather Rule: no such thing with NIMRA

Compliance: It is highly recommended that you seek advice from a club where you intend participating during your build or when you purchase another mower

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