

## CHAPTER 10

### 10 MOTORCYCLES TECHNICAL

- 10-1 A competitor entering a motorcycle for an event must sign a machine examination excluder form even if the machine examination has taken place. For all Road Race sidecars, scrutineering is compulsory, all Road Race Sidecar competitors hold specialized log books for scrutineering purposes. Random checking of all other machines may take place before, during or after an event by a competent motorcycle examiner. Clubs who desire to check all machines at any event may do so with a machine examiner. Competitors may be penalised or disqualified for entering a machine that does not comply with minimum MNZ requirements. The steward of the meeting may also exclude any machine or equipment considered unsafe for the event.
- 10-1-1 The machine examiner may ask for the removal of the main fairing on road racing sidecars, for inspection purposes.
- 10-1-2 At all times the onus is on the competitor to ensure that their equipment is being operated within the specifications and limits (if any) imposed by the equipment manufacturer or supplier.
- 10-2 RACE NUMBERS:  
Race numbers will start from one. No prefix numbers permitted. Letters are restricted to overseas based competitors and shall be allocated by MNZ.  
Riders must provide and have securely fitted to their machines number plates as follows:
- 10-2-1 ENDURO:  
Front: Circular or square of a size that is clearly visible to officials and scorers.
- 10-2-2 MOTOCROSS, MIN.TT, GRASSTRACK, CROSS COUNTRY, ETC:  
Front: Circular or square, not less than 23cm in diameter.  
Sides: On either side of rear forks, circular, not less than 25cm in diameter.  
All participants must have bike numbers clearly visible on their backs at all motocross championship events. These numbers to be a minimum height of 150mm.
- 10-2-3 ROAD RACING (all classes) except the following classes in Appendix A, B, C and F – see class rules  
Size: Minimum width 285mm, minimum height 235mm, oval or rectangular in shape.  
Placement: 3 number boards to be affixed or placed upon the motorcycle, in colours required for the class as follows:  
Front: Facing forwards, with not more than 30 degrees forwards from vertical.  
Sides: One either side of the motorcycle in a position clearly visible when the rider (and passenger for sidecars) is seated in their usual riding position.  
In a place on separate boards, a space of equivalent size and shape can be on the bodywork or streamlining.

Figures: Must be clearly legible in the required colour for class, the following minimum dimensions:

Height of Figure	140mm	Space between figures	15mm
Width of Figure	80mm	Width of Stroke	25mm

A plain form of figure shall be used with no scrolls or pinstripe.

Colour: In the required colour for the class and of a matt finish to reduce reflection.

125cc & 150 S/S	White background, black figures
Formula 3	Black background, white figures
250GP	Yellow Background, black figures
600 Sports Production	Yellow background, black figures
Production Superbike	White background, black figures
Sidecars – Formula One	White background, black figures
Sidecars – Formula Two	Yellow background, black figures

Miniature Road Racing:

Up to 50cc	White background, black figures
Open	Black background, white figures
Sidecars	Black background, white figures

Classic and Post Classic:

Up to 250cc	Dark Green background, white figures
Up to 350cc	Blue background, white figures
Up to 500cc	Yellow background, black figures
Open	Red background, white figures

Only FIM Licence holders will be permitted to use letters.

All other markings or number plates on the motorcycle likely to cause confusion must be removed or covered over.

10-2-4 TRIALS:

Front: On the front forks facing in a forward direction measuring no less than 12 x 8cm and of the colour for the riders grade. Each rider must have their name on the front number board.

10-2-5 SHORT FLAT TRACK STOCKBIKES:

Front: Rectangular shape 23cm x 28cm minimum.

Side: Same as above unless the side plates are part of the original construction of the machine.

10-3 All numbers are to be on non gloss backgrounds and must not be less than 25mm wide for MX, Road Racing, etc, and 15mm wide for Enduro and Trials. Numbers are to be as high as practicable.

10-3-1 Racing numbers will be in the colours specified for the engine capacity of the machine or the class of the rider and must be carried in all types of competition. Background colours shall approximate the following:  
Green, Yellow, Red, Blue: NZS 7702:1983

10-3-2 ENDURO:  
Optional, but the figures must be clearly visible.

CROSS COUNTRY: Blue Disc, yellow number

10-3-3 MOTOCROSS:

National 125cc	Blue disc, white number
National 250cc	Green disc, white number
National 500cc	Red disc, white number
Expert 0-200cc	White disc, red number
Expert 201-Open	White disc, black number
Intermediate up to 200cc	Yellow disc, red number
Intermediate 201cc to Open	Yellow disc, black number
Novice 2 & 4 stroke	Black disc, yellow number
Veterans All Classes	White disc, blue number

10-3-3-1 ATV MOTOCROSS:

0-225cc 2 stroke – 0-300cc 4 stroke	Green background, white number
301-425cc 4 stroke	Red background, white number
Open quad	Black background, white number
Super Quads	White background, green number
Junior	Green background, white number

10-3-4 TRIALS:

Clubmans, Juniors, Presidents, Twin Shock:	Dark blue background, white names
Intermediate	Yellow background, black names
Expert	Red background, white names
(Colours and figures must be contrasting).	

10-3-5 SHORT FLAT TRACK STOCKBIKE:

All classes (Figures to measure 15cm x 25cm)	White background, black figu
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10-3-6 JUNIOR COMPETITION:

8-10yrs	White background, black figures
11-12yrs	Yellow background, black figures
13-16yrs	Red background, white figures
12-14yrs	Blue background, white figures
15-16yrs	Green background, white figures

- 10-3-6-1 MINI MOTOCROSS:  
All classes Black background, white numbers
- 10-3-7 Number plates must not have any stickers or markings liable to cause confusion with the number.
- 10-4 Provided that it complies with these rules, there is no restriction on the make, design and type of motorcycle that may be driven in a competition under these rules.
- 10-5 All machines competing on tracks or courses other than approved Speedways or like tracks must be fitted with securely mounted footrests which when in the riding position do not touch the ground with the machine at a less angle than 45 degrees from the vertical.
- 10-6 Exhaust systems must be fitted and securely mounted. The exhaust pipe outlet must not direct exhaust gases directly to the ground or in any other direction, which will lead to the creation of dust. This will be cause for exclusion.
- 10-6-1 Exhaust mufflers are mandatory in all forms of competition. No specific decibel figures have been set, as sound frequency is often the cause of discomfort rather than the decibel level. The Steward of the Meeting has the power to reject any machine considered to be unduly noisy.
- 10-6-2 For sealed surface competition, all machines which have the exhaust silencer baffles secured by a screw or bolt to the body of the silencer must also have the baffles securely wired.
- 10-6-3 Noise: Some venues may have specific noise level limits. These if included in supplementary regulations may overrule rule 10-6-1.
- 10-6-3-1 Noise Emmission Road Racing  
All Road Racing Events on Permitted Circuits (Teretonga, Levels, Ruapuna, Manfield, Taupo, Pukekohe, Hampton Downs as of this point) the noise limit is 95dBA.

All machines are to be effectively silenced so as not to exceed 95dBA "ride by", measured by the official meter mounted 30 meters from the track centre line, at the position on the circuit nominated by the circuit owners/managers. Machines registering readings consistently in excess of this limit will be brought to the attention of the officials for action to be taken as follows:

Exceeding 95dBA but not exceeding 98dBA: On the first offence during the meeting, the rider will be warned that this has occurred and instructed to rectify the meeting, the rider will be warned that this has occurred and instructed to rectify the situation. For the second and subsequent infringements, the machine/rider will be Black Flagged from the practice or race without further warning. If circumstances do not allow the machine to be Black Flagged, the competitor will be excluded from the results of that practice or race.

At all Street Circuits machines must operate as per the conditions (if any) listed in the local Councils resource consent for the event. Should these conditions require special procedures and/or testing at the event, then these must be listed in the Supplementary Regulations.

For special demonstration races/displays exemptions may be applied for, local council resource consent forms must be attached.

- 10-7 All vehicles must be fitted with an efficient brake on both front and rear wheels except in the case of competitions held on circular, semi-circular or speedway tracks, when brakes, if fitted to the machine must be disconnected.  
Any vehicle using a hydraulic type brake master cylinder must have a brake pedal return stop fitted so that the brake pedal linkage does not depend on the cylinder circlip to act as a stop. Where application of this rule is in conflict with Appendix A 3-6 then that shall take precedence.
- 10-8 All motorcycles must have the top run of the primary chain completely covered by a guard of sufficient dimensions to keep riders clothing from coming in contact with the transmission, and the rear chain guarded when considered necessary.
- 10-9 All machines must have rounded inner surfaces on clutch and brake levers, the outer end of such levers to be securely fitted with a rounded knob or ball of not less than the following diameters:
- |                     |      |
|---------------------|------|
| Mini Class machines | 13mm |
| All other machines  | 16mm |
- 10-9-1 Handlebars must not be of greater width than 92cm and must have the ends securely capped or plugged. All handlebars on off road motorcycles must be plugged.
- 10-9-2 Metal handlebar protection may not be used in any Supercross event or in any Motocross class race at a NZ or Island title event.
- 10-10 Sidestands must be removed from motorcycles used in motocross and stadium motocross events being ridden by all riders.
- 10-11 Complete liberty is allowed as regards streamlining in the case of motorcycles used in an attempt on a record.
- 10-11-1 For other types of competition, streamlining can be permitted. The width of which at front does not exceed the width of the handlebar by more than 10cm. The front most point of the streamlining must not project in plan more than 10cm past the centre of the front axle. The front wheel, with the exception of the tyre and the part covered by the mudguard, must be clearly visible from each side. For reasons of historical accuracy, machines covered by chapter 23 are exempted from frontal rules provided this is mentioned in the supplementary regulations for the meeting. The same requirements apply equally to the

rear of the streamlining, the rearmost point of which must not project in plan more than 30cm beyond the rearmost point of the tyre.

- 10-11-2 Streamlining should be so designed and fixed as to allow complete liberty of movement to the driver, both when driving and when mounting and dismounting from the machine which should be easily controlled without displacing the streamlining or any part of it. The Windscreen edge and the edges of all other exposed parts of the streamling must be rounded.
- 10-11-3 Steering dampers may be fitted but the attachment method must be of good commercial standard. Metal steering stops must be added to the frame if the existing stops are inadequate. The damper must not in any way act as a steering lock limiting device. Minimum steering lock must be 15° either side of the centre line of the motorcycle.
- 10-12 Every motorcycle which takes part in a competition on an open public road shall comply with all legal requirements. Warrants of fitness are not required for speed events on an officially closed road.
- 10-13 For sealed surface competition, all crank cases, gear box, oil drain and breather tubes open only into a catch tank, i.e. a plastic bottle or suitable container to catch oil and oil mists. Air cleaner drain lines will enter a catch bottle and be sealed. Drain plugs and oil filter retaining bolts will be wired. Spin-on cartridge type oil filters must be secured by a hose clip.
- 10-13-1 Fuel tank cap seals must not allow excessive leakage.
- 10-13-2 Ethylene Glycol is banned from use in road race radiators.
- 10-13-3 For Championship road races and endurance road races of more than 55 minutes – any breather pipes that come out of engines or transmissions must discharge into the heat resistant catch bottle. The breather pipe's must be of a clear reinforced translucent material and be visible to the rider in a riding position.
- 10-13-4 **STREET CIRCUITS–ALL CLASSES**  
All machines to be fitted with an operational tether kill switch. The tether kill switch must not be fitted in such a way that it can be overridden and must be securely attached to the rider. This switch is to be additional to the regular handlebar mounted kill switch. A number of machines, mainly historic and classic classes, are technically difficult to modify to accept any type of kill-switch, tether or otherwise. These machines will be exempt from this rule on both the following conditions being met:
- a. The machine must have a self contained magneto ignition, and
  - b. The engine must stop when the throttle is closed. It must not idle.

- 10-14 Where necessary, machines will be sealed for measurement purposes. Machines must not be taken from the pits after a race without the consent of the Clerk of the Course. Failure to observe this rule may entail exclusion, suspension, or disqualification.
- 10-14-1 The Steward(s) of a meeting may order any motorcycle which they have reason to believe may not be in accordance with the Rules and Supplementary Regulations to be impounded at the end of the meeting and motorcycle shall be retained as may be directed by the Steward(s) for such period as may be reasonably necessary for its examination by them.
- 10-14-2 If the measure be to determine a protest, the party against whom the decision is made shall bear the cost and the motorcycle may if the engine is found oversize be retained until such costs are paid.
- 10-15 The Formulae to Calculate Cubic Capacity:
- 10-15-1 Reciprocating piston motors: Diameter of cylinder bore in centimetres, squared, multiplied by 0.7854, multiplied by stroke in centimetres, multiplied by number of cylinders.
- 10-15-2 Rotary combustion (Wankel Patent): Capacity of one working chamber in cubic centimetres, multiplied by number of rotors, multiplied by two.
- 10-16 Fuel Testing
- 10-16-1 Fuel testing at any event may only be ordered by the relevant MNZ commissioner, in consultation with the Stewards Commissioner. No other party may request such action to be taken.
- 10-16-1-1 Such testing is to be carried out randomly by suitably trained MNZ officials using appropriate sampling methods.
- 10-16-2 Testing will be carried out using 2 methods; Initial screening will be carried out using an MNZ approved FTIR analyser to give an indication of whether any irregularity exists. Should irregularities be indicated/suspected then further fuel samples will be taken for forwarding to a recognised laboratory (ESR or similar) for detailed analysis. If no irregularity is detected, then no further testing will be required.
- 10-16-3 Sampling Procedure:  
Containers for holding samples must be clean and constructed of robust, fuel non-reactive, impermeable material. They must be sealable and have provision for identification.  
Equipment used for extraction of fuel from machines must be clean and constructed of fuel non-reactive material.  
Each sample must be divided in two and placed in separate containers (2 samples of a maximum 1 litre each). The containers must immediately be sealed and identified by reference to the machine from which the sample was taken. This information must be

entered on an MNZ “Fuel Sample Certificate” which must certify the date, place and time of taking the sample, the identity of the machine from which it was taken and the identity of it’s rider.

Both samples must remain in the control of the testing officials and the rider must sign the MNZ “Fuel Sample Certificate” acknowledging that a sample was taken and must be given a copy of the certificate.

Refusal to submit to the taking of samples or signing of the certificate will be treated as an admission of guilt.

At the conclusion of the event the samples are to be delivered either in person or by a recognised Courier to the nominated laboratory, as soon as is practicable.

Fuel sampling may be carried out at any time during a meeting.

10-16-4 The results from the analysis must be attached to the laboratory’s copy of the MNZ “Fuel Sample Certificate” and returned to MNZ as soon as practicable after the results have been obtained.

10-16-5 The results of the analysis must as soon as practicable be notified to the club at whose meeting the testing was carried out, the rider and the MNZ Board for appropriate penalty(s) to be imposed should irregularities be confirmed.

10-17 Fuel:

10-17-1 The following classes shall be restricted to petrol having maximum characteristics not exceeding “Avgas or Unleaded FIM” as defined in Appendix E. Motocross, Stadium/Supercross, Miniature TT, Trials, Enduro, Cross Country, ATV, Stockbike, Solo, All Road Race except those classes listed in 10-17-2 and 10-17-3. All Mini and Junior classes.

10-17-2 The following classes shall be restricted to petrol having maximum characteristics not exceeding “unleaded Super” as defined in Appendix E. No additive maybe added to the fuel.

1. Sports Production. Appendix A

10-17-3 The following classes shall have the choice of either petrol having maximum characteristics not exceeding “Avgas, Unleaded FIM” or methanol, both as defined in Appendix E. Sidecars as defined in chapter 27. National Speed Records, Hill Climb – Road and Grass, Beach, Classic Road Racing as defined in Chapter 23, Post Classic (Period 72) Road Racing as defined in Rule 25-3, Post Classic (Period 82) Road Racing as defined in Rule 25-4 (4 stroke engines only),Grass Track and Speedway Sidecars and those classes of Oval Racing defined in Chapter 19 and 20 except 20-27, 20-31 and 20-32. Any machines using methanol must display “Dangerous Goods” or other appropriate stickers that clearly indicate its use, on the machine in a prominent place e.g. number boards.

10-17-4 NOTE: Nitro methane and similar agents are prohibited in all classes of racing.