

# Road Racing Preparation Guide

This document provides some basic steps on how you may modify your bike in accordance with the referenced sections of the rules. Please keep in mind that each bike is different and you will need to ensure the advice is appropriate/applicable.

## DISCLAIMER

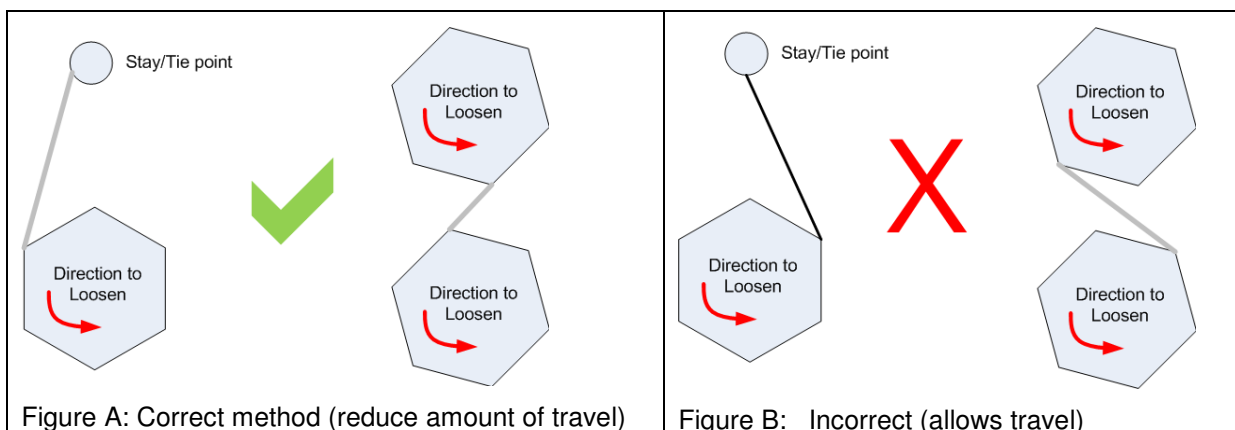
This guide is based on the 2017 General Competition Rules (GCR's) in the Manual of Motorcycle Sport (MoMS). The latest copy can be found on the Motorcycling Australia website: [www.ma.org.au](http://www.ma.org.au)

While it provides an introduction into preparing a motorcycle for Road Racing, it does not aim to replace or reduce the need to read the GCR's which take precedence over anything written within this guide. The club and/or author of this document shall not be held liable for any discrepancies or inaccuracies in this document and it is required that each rider read the Rules and check that their bike complies accordingly.

## 1. PRIOR READING – BASICS OF LOCK OR SAFETY WIRING

This section will come in handy later and shows how to tie back the wire when lock-wiring or safety-wiring. The wire should pull in a way which minimize the possibility of travel (being undone) and the diagrams below show that the placement of the wire can have an effect on how much travel the bolt or nut may have if it were to come loose.

Each figure shows two possible scenarios, the first (leftmost in each figure) is for a single bolt or nut tied to a stay/tie point which is fixed, the second shows two bolts or nuts wired together.



## 2. SAFETY GEAR

The first place to start is making sure you have the basic safety gear. Each rider is required to have the following safety gear:

- Australian Standards Helmet and visor (without visible damage);
- Leather Gloves;
- Zip together or single piece Leathers;
- Back protector;
- Pair of road riding boots.

## 3. MANDATORY PREPARATION

Firstly the most basic items need doing:

- Head lights, tail lights and indicators are removed or taped up. They must not be visible if operated as will cause distraction;
- Mirrors are to be removed;
- Brakes are to be of good operation;
- Throttle MUST be smooth and self closing.
- Levers MUST have ball-ends – this is important and is a common fail item.
- Bar ends MUST have bar-end caps – this is important and is a common fail item.

In addition each section that follows should be considered mandatory, and is traced to the corresponding GCR for ease of cross referencing. Bikes will vary in design and configuration, so please read your manual or consult your peers as required. If you're stuck, see the end of the guide.

#### 4. USEFUL RESOURCES

Scrutineers are trained on what to look for to ensure compliance with the GCR. The following training video is used for the training of the scrutineers and is also helpful for those trying to understand what must be done to prepare your bike.

Scrutineer Training Video: ([www.youtube.com/watch?v=CqFjXtw2qp8](http://www.youtube.com/watch?v=CqFjXtw2qp8))

Please keep in mind that the scrutineers on the day will have the final say as to what is acceptable, so please read the current GCR's carefully. They may change so please check before each race/track outing.

**Rule 10.17.1.6 - Plugs or caps which, if removed, permit the discharge of any lubricating, cooling or hydraulic fluids, must be wire-locked or otherwise secured in the tightened position in a manner approved by the Scrutineer.**

Please refer to the section on prior reading, on lock or safety wiring basics. The following will need to be wire-locked on each bike:

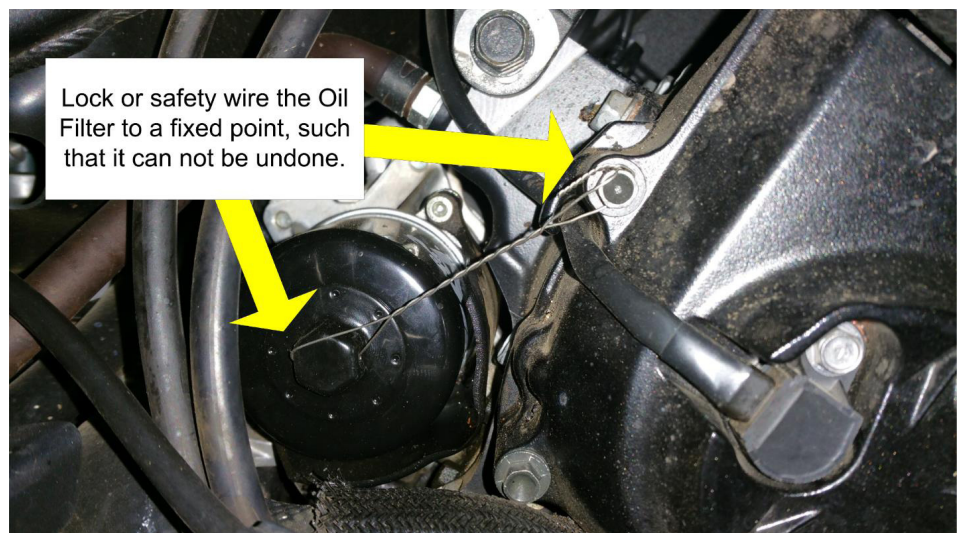
- Front Brake Calipers bolts;
- Oil filter;
- Radiator cap;
- Sump plug;
- Water pump drain plug; and
- Oil fill cap.

Below a picture shows the lock wiring of Front Brake Calipers. In this example pre-drilled bolts have been used, otherwise you will need to carefully prepare your bolts for wiring.

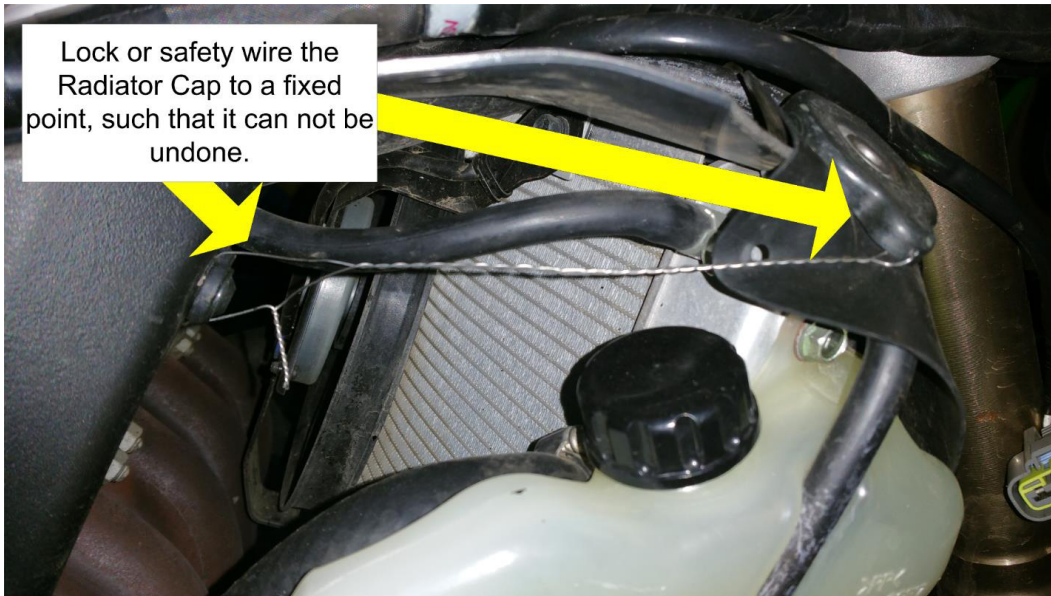
Lock wire the caliper bolts, generally together – refer to the start of this guide on how to lock wire two bolts from each other.



Using an example bike, the figure below shows an Oil filter being lock wired. In this example we have purchased a pre-prepared filter which is fitted with an easy head for wiring (K&N filter). An alternate method is to use a hose clamp around the filter and then lock wire from there.

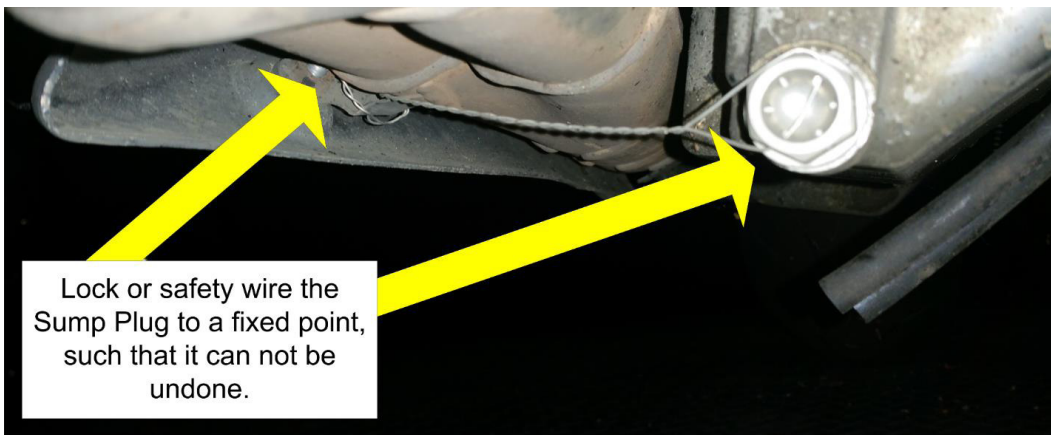


Below the radiator cap of a bike has been drilled (off to the side to not damage the seal) and a wire tied back to the frame.



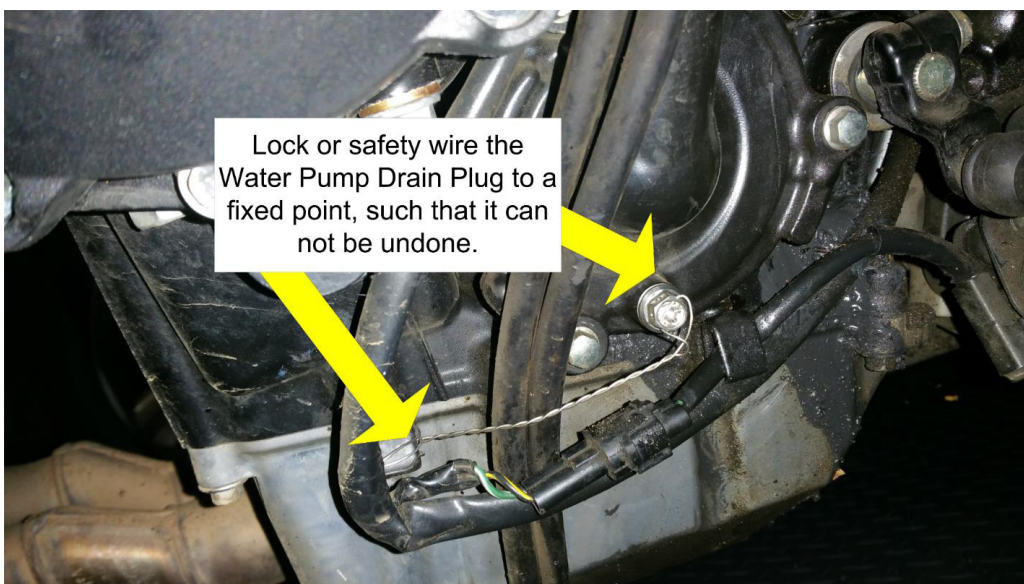
Lock or safety wire the Radiator Cap to a fixed point, such that it can not be undone.

Below the sump plug of the bike has been replaced with a pre-drilled sump plug available from several specialist retailers/online stores. Alternatively one can carefully drill through the head of their existing bolt (be careful not to damage the bolt or washer underneath as the sump plug is crucial to maintain the oil in your engine).



Lock or safety wire the Sump Plug to a fixed point, such that it can not be undone.

The water pump drain bolt must also be lock wired, please refer to your bikes repair or service manual for how to drain the coolant (also a required step – see later regulations). At the time you are draining and replacing it with water either use a pre-prepared bolt and lock wire -or- drill the head of your existing drain bolt as appropriate.



Lock or safety wire the Water Pump Drain Plug to a fixed point, such that it can not be undone.

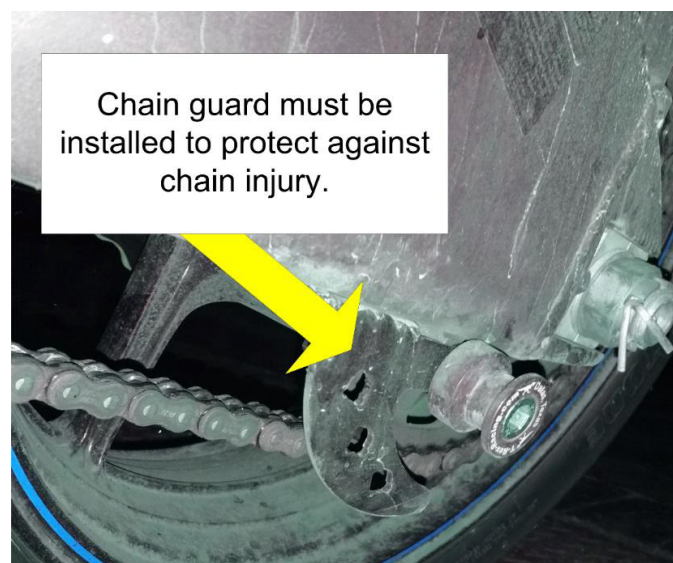


The bikes oil cap must also be drilled (see how the plastic has been carefully drilled off to the side at top right). This enables it to be lock wired to avoid it undoing.



Rule 10.17.10.1 - A chain guard must be fitted in a way to prevent trapping between the lower drive chain run and the final drive sprocket at the rear wheel.

A chain guard must be fitted. This can be fabricated or you can pre-purchase guards for most bikes from specialist/retailers.



Rule 10.17.1.12 - With the exception of production-based machines without a lower fairing which have Australian Design Rule compliance, all machines, including sidecars, must be fitted with an integral lower fairing dam or separate catch tray, which must be constructed to trap and hold engine oil and/or coolant:

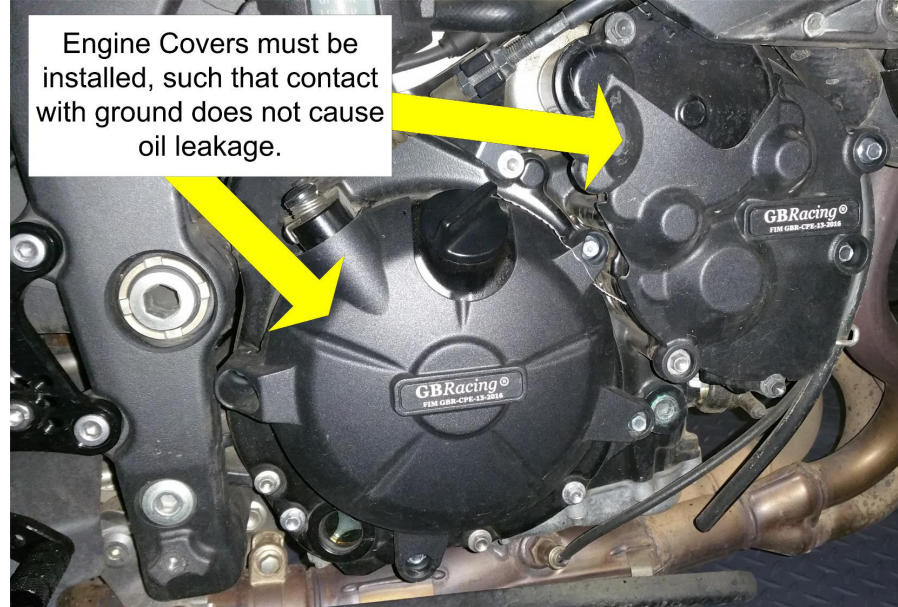
- (a) For 4-stroke machines, a capacity of at least 3 litres,
- (b) For 2-stroke machines, a capacity of at least 2.5 litres,
- (c) All air-cooled machines with lower fairing dams/fluid catchment areas are to hold a capacity of fluid greater than or equal to the oil capacity of the engine unit,
- (d) With no less than two holes, each of 25mm, which may only be opened in wet race conditions.

As per the Rule above, if your bike has fairings then it will need an oil tray/trap. This is generally inbuilt into race fairings, otherwise you will need to fabricate one as per the above specifications.

Keep in mind that in a wet race, the two holes in point (d) can be important. Sometimes it is required to drill such holes into a race fairings lower fairing, however if holes are drilled grommets must be installed in the dry. Grommets can be purchased from rubber stores (e.g. Clark Rubber).

Rule 10.17.1.3 - All lateral covers/engine cases containing oil and which could be in contact with the ground during a crash, must be protected by a second cover made from composite materials, type carbon or Kevlar, or be fitted with heavy duty crash resistant end cases made from solid metal. Plates and/or bars from aluminum or steel are also permitted. All these devices must be designed to be resistant against sudden shocks and must be fixed properly and securely. Bonding alone is not a suitable method of mounting.

As per the Rule above, you will need engine case covers. These can generally be purchased from specialist/retailers. In the diagram below we show one side of an example bike (the other side has similar engine case covers).

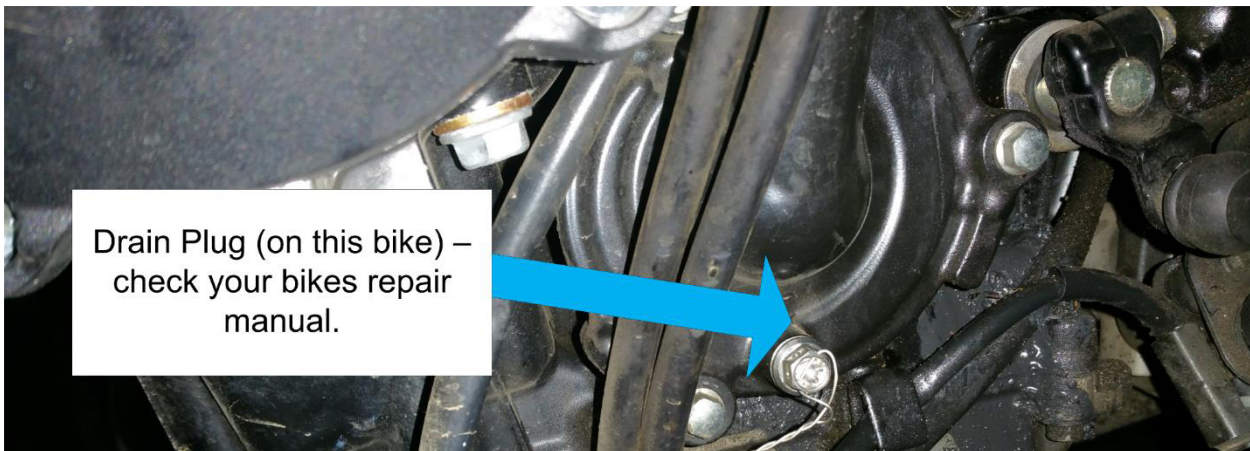


Rule 10.17.1.10 - The only liquid coolants permitted are is water and non-glycol coolants. Glycol and coolants manufactured with glycol are not allowed.

Radiator coolant used in all factory road bikes will need to be drained. This generally requires loosening of the drain plug (see following diagram from the example bike – see your manual / service book) and also removing the radiator cap and draining the expansion tank (see second figure).

Some coolants have been falsely advertised as race approved coolant, anything that contains glycol in any percentage is not acceptable. As such it is highly recommended just to use water on the day, and refill with coolant when storing your bike.

*Helpful tip: Some bikes have a flush drain plug - with the flush drain plugs I get around this by drilling a cut off Allen key and gluing it into the hex hole with liquid metal so that it protrudes like a bolt head.*

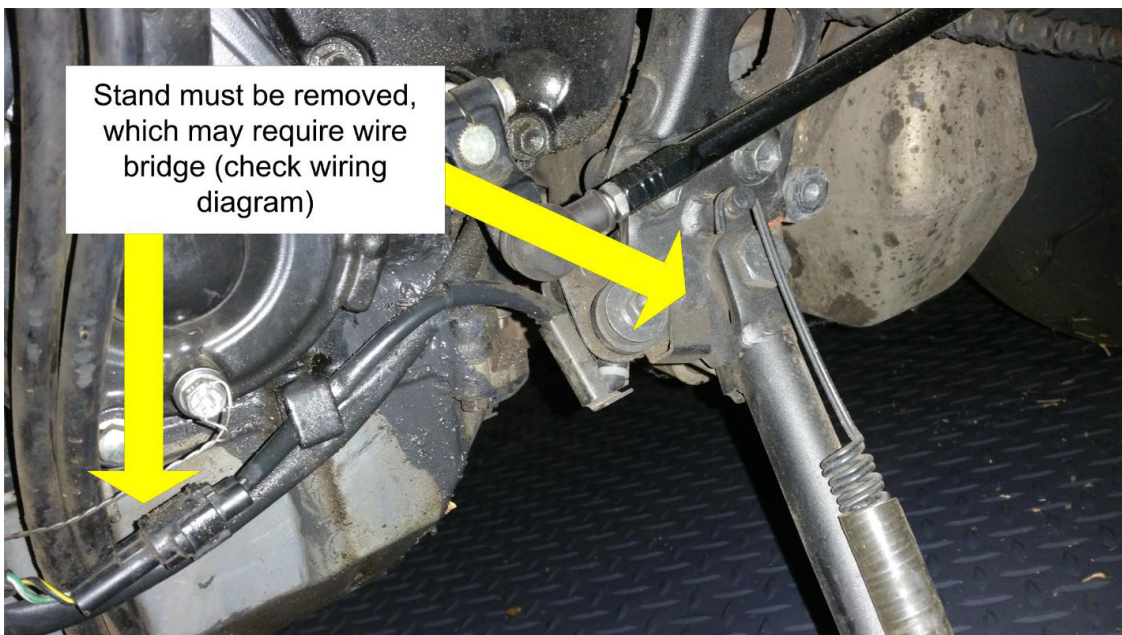






Rule 10.17.6.1 - Centre and side stands must be removed for all types of competition.

Your side stand or centre stand will need to be removed. This may require you to also insert a bridge (wire clip) in-between any stand cut-out switch. This can be tricky to do, but generally further information can be found online.



*This guide was copied from the Preston MCC, Victoria*