

## Engine End Cases: Rule 15.2.3.4 explained.

The dreaded rule 15.2.3.4 in this year's GCR's requiring end case protectors to be fitted to road race bikes has caused much confusion and more than a little trepidation as riders come to terms with what is required and how much it will cost. The initial wording of this rule and other related ones, such as 15.6.0.9(r) and 15.10.3.5(e) was ambiguous and some of the clarifications released later only added to the perplexity.

It seemed once order was restored that riders of four stroke machines were in for a hefty slug to their race budgets, and those with older models were finding it almost impossible to find the appropriate protectors or replacement heavy duty covers. Personally I've cleaned up enough oil in the last few years from busted end cases to wipe out several marine species, and don't care if I never have to again. So I believe it is a good thing but just needs better clarification. I've been approached by so many riders asking for an interpretation on this rule this year that it's time it was explained for all.

So if you're still unsure what is required, don't panic because it's not as hard as it would seem.

Firstly let's look at why this rule was introduced and what it is really calling for.

World Superbikes have had such a rule for a few years now and many overseas domestic racing governing bodies also apply something similar. In fact in WSBK if you use HD cases you are still required to fit protectors as well.

As bike manufacturers chase weight savings cases get lighter and grind through more easily. By the addition of a protective plate or skin over the end cases, or replacing it with a thicker one, not only does it mean less cleanup, it could save bringing others down in spilt oil. In many past cases a simple low side slide has resulted in following riders having much more major crashes in the resultant oil spill. They will probably also save the rider some expensive repairs to his engine. Many of those who have crashed this year are now grateful for their covers as their repair bill was much lower than it otherwise might have been.

The rule is supposed to apply to all four stroke machines.

Forget the wording that you see in the GCR's for now as it will be changed for next year.

What scrutineers need to see is that you have replaced or protected any oil containing covers that protrude beyond the frame and fixed hardware far enough to come into contact with the track in the event of a crash. Remember that fairings, handlebars, rearsets and footpegs can all break off in a crash so these don't count as protection. Some single cylinder bikes may not need anything done to them as nothing protrudes far enough to cause a problem.

If you're going to use heavy duty replacements make sure you can prove that they are in fact thicker than the original covers. There are a few manufacturers of these, Woodcraft being the most popular and readily available.

If you're going for protectors, they'll need to be mounted securely enough that they won't just flick off. GCR 15.2.3.4 says they have to be mounted on at least 2 of the bolt holes of the original cover. While this is probably a pretty sound idea, I've seen some that are affixed to the frame or other points and would offer superior protection to those in screw holes. There are a few traps with mounting them to the screw holes too. Carbon fibre covers have proven to cause the end case screws to work loose due to their flexibility, hence creating an oil leak that otherwise would not have happened. (Kind of defeats the purpose, you'd think) Also if you use long spacers with longer bolts to mount a flat style covering plate, the leverage effect in a crash can cause cracking to your crank case. It's worth having tabs bent around and down to as close to the original mounting points as possible.

Options for case protectors include carbon fibre/kevlar moulded cases like the factory teams use, off the shelf half covers (Woodcraft and Yoshimura both make a stylish looking range of

these, with replaceable wear strips), metal plates, metal straps, and various permutations and combinations of all these.

We have a very creative body of riders and mechanics here in Queensland, and at a recent meeting at Morgan Park almost all entries had at least made a bona fide attempt to comply. Several of these had home made solutions that would have cost very little to make but did the job as well as any of the factory supplied ones. One rider who didn't comply managed to make something up from aluminium plate in half an hour in the pits once shown how, satisfying the scrutineers that his bike met requirements.

For Woodcraft products give Chris Williams at Scorpion Race Gear a call. (Ph 03-97026579) He can put you onto your nearest supplier. For carbon fibre end cases for Ducatis try Peter Martin at Sportsbike in Sydney (02-93100732). There are several people around Brisbane who can work with carbon fibre. Justin O'Donnell at Everton Hills (Ph 0415-376694) can custom make covers for your bike. Bryan Tricklebank is also doing very cheap alternatives for racers and can be contacted on 07-32996738 or 0407-644243. These are but a few of the suppliers, so do a bit of googling and you'll come up with more.

If you want to try making your own, look at the pictures here for ideas. These were all taken at Morgan park recently. There were many adaptations of the rule on display, employing checker plate, aluminium sheeting, stainless steel, mild steel, and billet aluminium, some of which cost very little, just a bit of time and ingenuity.

For the owners of post classic and new era bikes, even if you think the rules don't apply to you, please do the right thing by your fellow competitors and the officials and get end case protectors on. You can rest assured that the day you also have to fall into line with this rule is fast approaching.

Tom Williams.  
(Road Race Sub Committee)



*Heavy duty end case*



*Yoshimura half cover*



*Locally made carbon fibre cover*



*Stainless steel cover*



*Shaved checker plate cover*



*Bent checker plate cover*



*Welded checker plate cover*



*Sheet metal version*



*Made from leftover aluminium block*



*Cheap and easy steel strap*