

SFRC and Pierre Robichaud Present:

New Racer Workshop

#3 Race Bike Prep and Safety Wire

15 January 2013



What is the number one reason for prepping your race bike?



To make your street bike fast and win plastic trophies!?!?

What is the number one reason for prepping your race bike?

SAFETY

(not speed)

And for whose sake?

For whose sake?

- Considering that injury from a bike-prep related incident could have been **ENTIRELY** avoided the priority list probably goes as follows:
 1. The larger community (spouse, children, PIR, Portland motorcyclists, ...)
 2. Other racers or race participants (corner workers, fans, track officials,...)
 3. You.

OMRRA RULES! Class Requirements.

- Sect. A. CLASSES 9
- Sect. B. SUPERSPORT 11
- Sect. C. SUPERBIKE 15
- Sect. D. LICENSES, ENTRIES, NUMBERS 20
- Sect. E. GEAR AND BIKE TECHNICAL INSPECTION 22
- Sect. F. MACHINERY AND NUMBERS 24
- Sect. G. NOISE CONTROL 27
- Sect. H. FUEL 27
- Sect. I. RACE ORGANIZATION 28
- Sect. J. FLAGS AND SIGNALS 30
- Sect. K. CONDUCT 32
- Sect. L. PROTESTS 34
- Sect. M. POINTS AND AWARDS 35
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- Appendix A NOVICE 41
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- Appendix D 85GP 47

Superbike and Supersport

- **(B-3)** The following is a list of the only things that should or may be done to a Supersport machine. If the OMRRA Rulebook does not explicitly mention you can do it, you cannot.
- **(C-2)** No modifications are allowed within class capacity limits that do not conform to Sections F, G and H. All other modifications allowed as long as the following criteria are met: (lots of criteria follow)

OMRRA RULES! Safety Requirements.

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These slides only summarize the OMRRA rules. For official rules consult the OMRRA Rules 2013 at www.omrra.com

OMRRA RULES!

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Section G: Noise Control

- (G-1) At Portland International Raceway starting race engines before the close of the Rider's Meeting is prohibited. If OMRRA is fined by the City of Portland or DEQ for a noise violation, the rider(s) committing the violation are liable for the fine.
- Noise emissions will be monitored 50 feet from the racetrack and must not exceed the allowable limit of 103 dBA. Machines in violation will be black-flagged during practice or race. The violator must demonstrate to the Technical Inspector that the noise problem has been rectified before the violating machine will be allowed back on track.

OMRRA RULES!

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Section E

- (E-2) The Technical Bike Inspector inspects and approves machines for compliance with safety regulations (Sections F, G) before the rider is allowed on course. Equipment in unsatisfactory condition will be rejected.

Section E:The (almost) Inclusive List

- Wheels - rounded metal valve caps, taped weights, rims and tires condition good
- Axle cotter pins present and properly inserted, pinch bolts wired
- Front and rear brake function, attachment, fluid retention, brake caliper bolts wired
- Front fork caps secure, no leaky fork seals, proper fork action
- Fork drain plugs taped or wired
- Handlebar to tank/fairing no interference, bar ends plugged
- Ball-end levers no sharp edges
- Throttle action/return functional at extremes of steering lock
- Cable routing lock-to-lock, no interference
- Ignition kill switch visible and colored red
- Number plate mounts secure, numbers compliant regarding location, size, color
- Headlight, brake lights, instrument glass taped (if present) or removed
- Horn disconnected (if present) or removed
- Fuel tank mounts and cap secure, fuel lines secure
- Coolant lines clamped and secure, radiator cap wired
- Exhaust brackets wired (spring and header bolt wiring highly recommended)
- Oil drain and filler plugs wired
- Breather hoses and catch tanks secure, dry and wired
- Oil lines and oil filters secure, dry and wired
- Chain master link, if present, secured by RTV
- Rear shock proper action and mounts secure
- Foot peg ends rounded
- Bodywork and seat securely mounted
- Side stand removed
- Contingency Form complete, claimed product use and proper stickers confirmed

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Section E: Caveat, Direction, Warning

- The inspection above is not to be regarded as all-inclusive relative to safe race preparation. It is the **duty of the entrant** to check these items before a machine is presented for Bike Technical Inspection, and to make sure his/her motorcycle is prepared in a careful, workmanlike manner.
- For details regarding machine requirements see Section F.
- **(E-3) Violations of Gear or Bike Technical Inspection requirements, especially those deemed to put other racers at risk, will result in racer penalties (Section N).**

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Section F: Essentially Four Groups

- Man Meets Machine
- General Bike
- Engine and Bike Specific
- Securing (Safety Wire, Cotter Pins, Clamps, etc.)

Man Meets Machine Safety Rules

- F-3-4-5-19-20:
 - Clutch and brake levers must have integral ball-ends.
 - Machines must have a guard completely shielding the primary drive.
 - Front sprockets should retain OEM countershaft sprocket covers, and rear sprockets should be shielded by a “shark fin” foot-deflector device.
 - Foot peg ends must be plugged if round and hollow.
 - Damaged or repaired handlebars are prohibited. Handlebar grips and control levers must remain at least one inch from the fuel tank and may not touch the fairing or otherwise create finger pinch points throughout the steering arc.

General Bike Rules

- F-1-2-8-9-11-12-14-21-22-23-24-25-26-27-28-35:
 - Machines must be clean and free of leaks. Nuts and bolts shall be securely fastened, and parts must be attached in a safe, workmanlike manner.
 - 4-stk: oil breather lines to the oil tank or a heat and shatter resistant catch tank, alternatively, may vent oil breather to an unmodified air-box with plugged drains, or directly into exhaust injectors (PAIR valves).
 - Automatic chain oilers are not allowed.
 - A tail section or rear mudguard must extend to at least a vertical line drawn through the rear axle.

General Bike Rules

- F-1-2-8-9-11-12-14-21-22-23-24-25-26-27-28-35:
 - Rims less than 16”(f) and 15”(r) diameter disallowed.
 - Valve stem caps must be metal and rounded.
 - Self-closing twist grip type throttle.
 - Effective kill switch placed on the handlebar within easy reach in normal riding position, and colored red.
 - Stands, turn signals, headlights, taillights, mirrors and/or any other accessories deemed dangerous by the technical inspector must be removed.

General Bike Rules

- F-1-2-8-9-11-12-14-21-22-23-24-25-26-27-28-35:
 - Belly pan of sufficient to contain at least 125% of the motorcycle's total oil capacity.
 - Clip-style master links must be secured with a gas and oil resistant silicone or similar adhesive. No safety wire. Peened master links recommended.
 - Previous inspection stickers must be removed.
 - 3 white number plates. #s must be black, at least 6" high, 1" thick, and clearly readable.
 - The addition of toys, dolls, hood ornaments and other unnecessary articles to race motorcycles is prohibited.

Engine and Bike Specific Rules

- F-29-30-31-32-33-34:
 - Rotary engine displacement will be calculated as 1.7 X compression volume X number of rotors. (Superbike only.)
 - A “Twingle” total capacity will be rated as a single cylinder. (2 cylinders, 1 combustion chamber).
 - Supercharged engines are prohibited
 - Turbocharged engines are allowed (see class regulations).
 - Motorcycles found susceptible to fuel tank ruptures must have functional guards.
 - Provided they are commercially available, aftermarket case covers are required on all inline four cylinder motorcycles made after model year 1995.

Safety Wiring (Cotter Pins, Clamps)

- F-6-7-10-13-15-16-17-18:
 - Oil fixtures such as drain, filter, filter plate bolts, caps and plugs must be safety wired with 0.032-inch minimum diameter stainless steel wire. Spin-on oil filters must be secured by a hose clamp, and the hose clamp safety wired to prevent rotation. If a wire attachment point on the filter has been provided by the manufacturer, that point may be used instead of a hose clamp.

Safety Wiring (Cotter Pins, Clamps)

- F-6-7-10-13-15-16-17-18:
 - Non-OEM oil lines and oil-cooler lines must be braided stainless steel. Hose clamps are not allowed. The only exception will be machines equipped with an oil-cooler stock from the factory. When OEM equipment is used, no modification to oil-cooler or hoses is allowed. Banjo bolts on oil lines must be safety wired.

Safety Wiring (Cotter Pins, Clamps)

- F-6-7-10-13-15-16-17-18:
 - Water-cooled motorcycles must have radiator drain plugs and caps safety wired. Antifreeze or glycol based cooling additives may NOT be used in the cooling system. Red Line Water Wetter or similar water additives are allowed. Four-stroke water cooled engines must have a securely attached coolant overflow reservoir of at least 8 oz. capacity made of heat resistant material. The coolant reservoir must be separate from the oil catch tank, and have a vent line terminating in the belly pan.

Safety Wiring (Cotter Pins, Clamps)

- F-6-7-10-13-15-16-17-18:
 - Brakes must be installed in a safe, workmanlike manner. Front and rear brakes must operate effectively. Brake caliper bolts must be safety wired.
 - Axle nuts, axle bolts, and axle pinch bolts must be secondarily secured. Axle bolts that thread into the end of an axle and axle pinch bolts must be safety wired. For dual pinch bolts near each end of the axle, it is sufficient to safety wire one bolt per side. Axle nuts must be secured using safety wire, a cotter pin, or a cotter pin substitute (see F-16: next item).

Safety Wiring (Cotter Pins, Clamps)

- F-6-7-10-13-15-16-17-18:
 - Where cotter pins are used as safety devices on castellated nuts, “R” or “D” clips may be used as a substitute. Those clips must be safety wired to the bike, and “R” clips must additionally be safety wired or zip tied closed at the mouth.
 - Fuel lines must be safety wired or mechanically clamped to their fittings.
 - Muffler bracket bolts must be safety wired.

End

That's it!

Except for Sections A, B, C, D, H, I, J, K, L, M, N, O, & Appendix A, B, C, D.