



# IHRO

International Historic Racing Organisation

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## MACHINE ELIGIBILITY AND TECHNICAL REQUIREMENTS 2010

From January 2010 there will be two IHRO classes called IHRO 1 and IHRO 2

### IHRO1 Machine Specifications

1. IHRO 1 caters for single cylinder thoroughbred Grand Prix racing motorcycles constructed during the period 1945-1972 inclusive, for the specific purpose of participation in Grand Prix competition during that era. Maximum capacity for any machine is 500cc, and wherever possible it is intended to run three classes, for machines up to 250cc, 350cc and 500cc.
2. Motorcycles must be presented in original, period condition, with no external updating. Period appearance seats, fuel tanks and fairings (if fitted) must be used. No external changes may be made to the appearance of any machine unless it can be proved that such a change was made in the period. Modern safety fixtures required by some federations and modifications mentioned in this document are not covered by this ruling.
3. No disc brakes are allowed. Drum brakes only may be used.
4. No alloy/magnesium wheels are allowed. Wire wheels only may be used.
5. All machines must have twin shock rear suspension: No monoshocks except Vincent Grey Flash. Suspension units must resemble period components, i.e. no external gas reservoirs etc.
6. All frames and swinging arms must conform exactly to period appearance; no box section swinging arms allowed unless fitted by the manufacturer to that machine in the period.
7. The maximum permitted rim width on either wheel is WM3.
8. No slick tyres, hand cut slicks or modern racing tyres designated by the manufacturer as being exclusively for wet weather use are permitted. Only the following rear tyres may be fitted. Any 19" tyre. The following 18" tyres, Dunlop 3.50x18, 3.50/3.25x18 KR124 and KR124A, Avon AM22 110/80x18 Rear Fitment and Avon AM18 120x18
9. Choice of carburettor is free, provided that this is of a period type cylindrical slide model, albeit of a later manufacture. Flat slide instruments are not permitted with the exception of Gardner carburettors. Fuel injection is not permitted except if it can be proved that particular motorcycle ran between 1945-72 with the same type of injection system fitted. A Wal Philips injector is classified under this heading.
10. The type of fuel used must conform to the ACU and FIM's current fuel regulations for 100LL Avgas at 102 MON. See full specifications below. All machines must finish a race with a minimum of 2 litres of fuel in the tank to allow a sample to be taken for analysis.
11. The use of belt primary drives is encouraged.
12. Engines may be modified internally and /or fitted with components of modern manufacture, but all engine castings must be unmodified externally and, if of modern manufacture, exactly resemble the original period castings to a visual inspection. A maximum bore size of 81mm for 350cc and 95mm for 500cc is permitted.
13. Machines may only run at the maximum of the class capacity size. No oversize engines are permitted.
14. The maximum number of valves that may be used by a single cylinder fourstroke engine is 3.
15. All machines must be prepared according to the requirements of the FIM and the organising club. Frequent checks will be made to guard against oil leaks soiling the track for others and anyone whose machine is repeatedly found to leak oil will have their registration removed.
16. All machines must be prepared to a high standard of cosmetic appearance. Untidy machines will not be allowed to start in any event.
17. a. The minimum weight of a 350cc class machine shall be 100kgs. b. The minimum weight of a 500cc class machine shall be 120kgs. An extra reduction of 10 kgs is made for Aermacchi single cylinder machines of less than 450cc in this class. The weight to be taken in both cases with a machine as it returns from the circuit after completing a race.
18. No carbon fibre shall be visible in its natural state on any machine. The use of this material is not forbidden on any component normally made from glassfibre, but its appearance must be disguised to look like glassfibre.
19. There shall be no noise limit at any IHRO meeting unless specified in the supplementary regulations for the event.
20. IHRO machines do not have to have under engine oil catch tanks fitted unless specified in the supplementary regulations for the event.
21. No machine used in IHRO shall use a 'slipper' clutch or any similar device.
22. No machine used in IHRO shall use a 'quick shift' device of any type to facilitate rapid gear changing.

## IHRO2 Machine Specifications

1. IHRO 2 caters for thoroughbred Grand Prix racing motorcycles constructed during the period 1945-1972 inclusive, for the specific purpose of participation in Grand Prix competition during that era. Maximum capacity for any machine is 500cc. All machines must be aircooled. Exception to this rule will be made for Konig engined machines but these must be exact replicas of the machines from the period. All IHRO 1 eligible machine may compete in IHRO 2. It will not be permitted for riders to compete in both classes with the same machine.
2. Motorcycles must be presented in original, period condition, with no external updating. Period appearance seats, fuel tanks and fairings (if fitted) must be used. No external changes may be made to the appearance of any machine unless it can be proved that such a change was made in the period. Modern safety fixtures required by some federations and modifications mentioned in this document are not covered by this ruling. A selection of photographs showing acceptable machine appearance is available on the IHRO website. All machines must be original from the period or very close replicas. Replica machines must look like the original machines shown in these pictures, the choice of colour schemes is open, as long as it is of period style, but frames, fairings, seats, forks and brakes must be similar to the ones used in the period.
3. No disc brakes are allowed. Drum brakes only may be used.
4. No alloy/magnesium wheels are allowed. Wire wheels only may be used.
5. All machines must have twin shock rear suspension: Suspension units must resemble period components, i.e. no external gas reservoirs etc.
6. All frames and swinging arms must conform exactly to period appearance; no box section swinging arms allowed unless fitted by the manufacturer to that machine in the period.
7. Wheel diameter must be 18 or 19 inch only, the maximum permitted rim width on either wheel is WM3. No 16 or 17 inch wheels will be allowed.
8. No slick tyres, hand cut slicks or modern racing tyres designated by the manufacturer as being exclusively for wet weather use are permitted.
9. Choice of carburettor is free, provided that this is of a period type cylindrical slide model, albeit of a later manufacture. Flat slide instruments are not permitted with the exception of Gardner carburettors. Fuel injection is not permitted
10. The type of fuel used must conform to the ACU and FIM's current fuel regulations for 100LL Avgas at 102 MON. See full specifications below. All machines must finish a race with a minimum of 2 litres of fuel in the tank to allow a sample to be taken for analysis.
12. Engines may be modified internally and /or fitted with components of modern manufacture, but all engine castings must be unmodified externally and, if of modern manufacture, exactly resemble the original period castings to a visual inspection.
13. Machines may only run at the maximum of the class capacity size. No oversize engines are permitted.
14. The maximum number of valves that may be used by a single cylinder fourstroke engine is 3.
15. All machines must be prepared according to the requirements of the FIM and the organising club. Frequent checks will be made to guard against oil leaks soiling the track for others and anyone whose machine is repeatedly found to leak oil will have their registration removed.
16. All machines must be prepared to a high standard of cosmetic appearance. Untidy machines will not be allowed to start in any event.
17. a. The minimum weight machine shall be 110kgs.
18. No carbon fibre shall be visible in its natural state on any machine. The use of this material is not forbidden on any component normally made from glassfibre, but its appearance must be disguised to look like glassfibre.
19. There shall be no noise limit at any IHRO meeting unless specified in the supplementary regulations for the event.
20. IHRO machines do not have to have under engine oil catch tanks fitted unless specified in the supplementary regulations for the event.
21. No machine used in IHRO shall use a 'slipper' clutch or any similar device.
22. No machine used in IHRO shall use a 'quick shift' device of any type to facilitate rapid gear changing.

## FUEL:

Fuel used at IHRO meetings must conform to the following:

Any commercially available pump fuel (unleaded, leaded, super unleaded or lead replacement up to Avgas 100LL specification or Diesel) may be used. The addition of any lead replacement additive approved by the Federation of British Historic Vehicle Clubs is permitted. Methanol is NOT permitted.

The Avgas 100LL property list is that provided by the FIM and is as follows:

Avgas 100LL must comply with specifications DERD 2485 or ASTM D 910

Property Units Min Max Test Method

Lead content 0.56g/l ASTM D 3341 or ASTM D 2599

MON 84.0 102.0 ASTM D 2700

Density at 15 degrees C Kg/m<sup>3</sup> 725 785 ASTM D 4052

Oxygen content % m/m 2.5 ASTM D 4815

Benzene content % v/v 5.0 ASTM D 3606 or ASTM D 4815

Diene content % m/m 2.0 GCMS

These properties apply also when the fuel is mixed with a lubricating oil. The following measurement tolerances will then be allowed:

MON : Minus 3 units

Density at 15 degrees C : Plus/minus 30 Kg/ m<sup>3</sup>

Distillation residue: Not controlled

Only ambient air may be mixed with the fuel as an oxidant.

In the event of any dispute, the interpretation of these regulations will be the responsibility of the IHRO organisation whose ruling is final and not subject to appeal.

These regulations supersede any previous copies. January 2010.