2016 TECHNICAL REGULATIONS APPLICABLE TO ALL 500 OA CHAMPIONSHIP EVENTS

Owners are reminded of the importance of good presentation. Engines leaking oil and body work in poor condition reflect badly on the 500 Owners Association and Historic Racing in general. All matters concerning compliance with these regulations shall firstly be referred to the Association Committee in writing. The Association Committee shall have full and final say in declaration of the result of any dispute.

Notwithstanding the above, cars deemed not to be in the spirit of the 500 Owners Association may have their 500 OA VIF withdrawn by the Association Committee.

1. **Introduction:** These Technical Regulations are set out in accordance with MSA requirements. It should be understood that if the following text does not specify that you can do it, you should work on the principle that you cannot.
2. **General description:** The 500 Owners Association Championships are for competitors competing in 500cc single seat racing cars which were raced between 1 January 1946 and 31 December 1960 (The Period). This Period is subdivided into 3 sub groups: P1 = 1945-1950, P2 = 1951-1953, P3 = 1954-1960. All cars should consist of group related components.
3. **Chassis:** The frame shall be to the original design and dimensions but may employ local stiffening. New stressed members must not be added unless they were a period specification. The points to which the suspension elements are attached must not differ from period specification. Identification marks must not be removed.
4. **Bodywork:** Shall be of the original profile and manufactured of the same material, normally aluminium. Bodies must be complete and fitted when the car is competing. In exceptional cases alternative material may be used at the discretion of the committee.
5. **Engines:**

   5.1 Original Engines:

   Shall be of the types used in cars in The Period and should be to manufacturers' period specification including the types of material used. The capacity shall not exceed 500 cc with bore and stroke to the manufacturers' period specification (see Article 5.2 below). Cylinder Heads shall be to period specification, except that period Twin Spark Plug and Robin Jackson conversions may be used. It is permitted to remove material only to adjust the compression ratio and blend ports. Crankshafts, con-rods, pistons and bearings, may be of different dimensions to period specification within the limits of the crankcase, provided that the same material type is retained. In the interests of reliability built up roller bearing big end type crankshafts may be replaced by one piece plain bearing big end types; however in all cases the bore and stroke as listed in Article 5.2 must be adhered to. It is permitted to update engines by incorporating modifications provided these are of a type proven to have been used in The Period. In such cases, the designated year of manufacture of the engine shall be the year of manufacture of the latest modification. (Note: Article 22 below applies to engines components).

5.2 Use of the following engines is permitted: Norton International SOHC Pre-Featherbed (79x100) 1947-52, Norton International SOHC Featherbed (79x100) 1953-58, Norton Manx SOHC Pre-Featherbed (79x100) 1947-50, Norton Manx DOHC Pre-Featherbed (79x100) 1947-50, Norton Manx DOHC Featherbed (79x100) 1951-53, Norton Manx 86x86 (1954-57), Norton Manx DOHC Lighthouse (86x86) 1958-60, , Norton ES2 /Model 18 (79x100) 1945-1960, , Norton Model 7 (66x72.6) 1954-1955, Norton 88 (66x72.6) 1954-1955, Norton 88 (66x72.6) 1956-1960, JAP Speedway 4-Stud (80x99) Pre-War, JAP Speedway 5-Stud Long (80x99) 1946-48, JAP Speedway 5-Stud Short (80x99) 1946-48, JAP Speedway 4-Stud (80x99) 1949-67, JAP Roadrace Mk 1 (80x99) 1950-51, JAP Roadrace 4 Stud Type 6/7 (80x99) 1952-54, JAP 84S (84x90) 1984-1993 (Speed Events ONLY), BSA Gold Star (85x88) 1949-1960, BSA A7/A7SS (66x72.6) 1947-1960 Twin, Triumph Pre-Unit 8 Stud (63x80) 1945-1958, Triumph TR5 (63x80) 1945-1958, Rudge (85x87) 4-Valve Pre-War, Vincent Comet (84x90) 1947-1955

5.3 Replica Engines:

Any part or dimension not specifically mentioned below must be to Period specification. Except for crankshafts, con-rods, pistons and bearings, components of Replica Engines shall be interchangeable with those of the original engines on which they are based. So called 'Short Stroke' or 'High Performance' variations of Engines are not permitted. These engines are considered entitles retaining their Identity throughout their life and Period or other modifications are not permitted.

Specifications for Manx Norton replica engines:

RE1: **Manx Norton:** Bore 86mm Stroke 85.6 mm Combustion chamber – Hemispherical. Inlet valve 1.92 inch dia. Exhaust valve 1.72 inch dia. Valve angle 64 degrees included angle Inlet cam 15822 Exhaust cam M5914 Tappet dia. 0.875 inch Contact radius 1.0 inch Valve timing IVO 67 IVC 98 EVO 85 EVC 64 (0.005inch clearance) Valve springs shall be of period specification hairpin type Con-rod length 6.7 inch (eye to eye) Crankshaft con-rod and bearing construction is free.

RE2: Manx Norton: Bore 79.62mm Stroke 100mm Combustion Chamber Hemispherical Inlet valve 1.840 – 1.915 inch dia Exhaust valve 1.735 inch dia Valve angle 77 degrees included angle Inlet port 1.218 inch dia (as machined) Exhaust port Threaded 20tpi Inlet cam M59 profile Exhaust cam M59 profile Tappet Dia 0.75 inch Contact radius 1.0 inch Valve springs Period specification hairpin type Splined bevels (1959 Pattern) Con- rod length 7.5 inch centres Crankshaft Either press up, one piece plain bearing or press up with roller bearing Crankcases Magnesium

6. **Suspension:** Shall be as originally constructed. Adjustable and Rose type joints are not permitted unless there is clear evidence of use on the individual car in The period.
7. **Transmission:** The original method of transmitting power from the engine to the gearbox and from the gearbox to the axle shall be retained. Toothed belt drives are not permitted.
8. **Gearbox:** Shall be of the type used in cars in The Period. The number of ratios shall be as the original, but the ratios themselves are free.

8.1 The following gearboxes are permitted: Norton Upright (Dolls Head & ES2) 1947-52, Norton Featherbed (Laid down) 1950-55, Norton AMC (AJS/Matchless) 1956-60, Norton AMC Commando, AJS 7R (Pre AMC) 1947-56, Norton Hume

9. **Clutches:** Shall be either solid disc or cork insert friction plate design of a type used in The Period.
10. **Braking system:** Shall be as originally constructed e.g. drum or disc of the same size and form.
11. **Wheels:** Shall be as originally fitted to the car. If the original wheels are unobtainable then another type may fitted at the discretion of the Committee. In such cases the wheels nominated must be of period style and the same diameter as original. An increase of rim width of up to one inch is allowed.
12. **Steering:** Shall be of original type e.g. steering box or rack and pinion.
13. **Tyres:** Shall be Dunlop Racing of 204 compound and R5 or older type tread pattern. Early cars, typically 1946-49, for which the original wheels are not suitable for tyres specified above may use alternatives, as approved in writing by the Committee on an individual basis. The use of tyre heating/heat retention devices, tyre treatments and compounds is prohibited.
    In the event of this specified tyre becoming unavailable the Committee will specify alternative/s
14. **Weight:** There is no minimum weight limit.
15. **Fuel System:** Carburettors from The period or earlier may be used. They must be of the same number and general type as those originally fitted in The Period.
    Maximum carburettor choke diameter shall be:
        Single carburettor - 35mm
        Twin carburettor - 30mm
    Fuel injection may be used on an individual car only if used in The Period and only if to the original specification.
    15.1 Use of the following carburettors is permitted:
    Amal 127/128 Track (Needle less) 1947-1960, Amal RN 1947-1960, Amal TT 1947-1959, Amal GP 1952-1960, Amal Monobloc 1954-1960, Dellorto SS1/SS2, Amal Concentric Mk1 (Speed Events ONLY)
16. **Fuel tanks:** Shall be contained within the body profile, unless the tanks were external in The Period.
17. **Fuel and Fuel Additives:** Only pump fuel or methanol may he used. For reasons of safety when using methanol, the fuel additive Alky must be added (it changes the colour of flame tips from invisible to yellow if the fuel catches fire. (Alky is available from www.aaoil.co.uk). When using methanol, the addition of 10% by volume of Acetone is permitted.
18. **Exhaust system:** Exhaust pipes shall be of constant diameter from the cylinder head to the silencer or period specification megaphone. Unless allowed for in SR's all cars are required to pass MSA noise regulations as laid out in the current MSA Yearbook.
19. **Ignition system:** Magneto or coil and contact breaker ignition are permitted. Electronic systems are not permitted.
20. **Supercharging:** is not permitted.
21. **Safety:** As required in the MSA Yearbook Appendix. K. Additional modifications for safety reasons may be permitted at the discretion of the Eligibility Committee

22. **Materials**: The use of carbon fibre, Kevlar or titanium is not permitted in any part of the car or its engine.
23. **Registration:** To be eligible for competition, cars shall be registered with the Association and entrants must be in receipt of a Vehicle Identification Document (VIF).

    Cars shall be classified according to the level of historical documentation provided with the application. These categories are:-

    Category A – Cars produced in The Period with complete history.

    Category B – Cars produced in The Period with incomplete history.

    Category C – Cars produced in The Period with no history

    Category D – Cars in the spirit of the Association ideals and standards, for use as approved by the committee on an individual basis. Category D cars are ineligible for Championship points.

    Sub sections of these categories, indicated by suffix -1, denote that cars comply with the Standards but deviate from original construction as recorded on the VIF. The onus is on the owner to ensure that the car complies in every respect with the regulations. Cars must also comply with the relevant MSA regulations.

----------End of Technical Regulations----------