

HISTORIC APPENDIX

SPECIFICATIONS OF AUTOMOBILES

VEHICLE ELIGIBILITY – HISTORIC SPECIALS

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Vehicle Eligibility

1. HISTORIC SPECIALS

Subject to the general requirements set out in General Requirements (all Groups) this section sets out the basic principles for the construction of 'historic specials', that is Group Jb, Kb or Lc period cars constructed at any time using major components manufactured in the relevant periods. Such vehicles must be similar in detail specification and appearance to vehicles that actually appeared in competition, in the period time. Guidelines for the design and construction of a Jb or Kb special are included in Group Jb and Kb Specials Guidelines 1.1. Before commencing construction of a special it is most advisable that Motorsport Australia National Office or the State Historic Eligibility Officer be contacted regarding the eligibility of the said vehicle and a submission for Approval in Principle be made. The classification of vehicles within these groups will be at the absolute discretion of Motorsport Australia.

- (a) **Chassis:** Must be sourced from a period vehicle but may be modified in a way that was typical of the period.
- (b) **Bodywork:** Must be manufactured from materials and utilise construction methods evident in the period. Glass fibre and other similar materials are not permitted.
- (c) **The Cockpit Configuration:** and materials must be compatible with the group period, particularly instruments, steering wheel and seats. The use of electronic instruments is not permitted.
- (d) **Engine:** Internal components of the engine are free, but cylinder block, crankcase and cylinder head/s must be from the period.
 - (i) Cylinder head/s, crankcase and cylinder block must be as used together in the period. Interchange between makes or models is not permitted unless it can be demonstrated as common practice within the group period.
 - (ii) Dry sump lubrication is not permitted unless fitted as original equipment by the manufacturer.
 - (iii) Toothed belt drives are not permitted.
 - (iv) Any increase in swept volume shall be in keeping with the practice of the period on that particular type of vehicle and engine, save that the crankshaft stroke must be to the original specifications.
- (e) **Exhaust system:** is free, but must be of a style evident in the group period.
- (f) **The induction system:** must be of a type compatible with the vehicle within the group period. Multi-choke carburettors and/or superchargers are not permitted unless they were used on that type of engine in the period, and they are of a period type. Fuel injection and/or turbocharging is not permitted.
- (g) **Transmission:** Gearbox casings must be original and contain the original number of forward ratios. Internal components are otherwise free. Austin 7 Specials may use a "Works Type" four-speed conversion within a Group J period three-speed case.
- (h) **Final drive:** All external components of the final drive assembly must be of the period, with the exception of the "nose piece" which is free. All internal components are free.
- (i) **Brakes:** The braking system must be of a type fitted to vehicles of the type depicted within the period save that:
 - (i) mechanical actuation may be converted to hydraulic operation; and

- (ii) dual/tandem master cylinders may be fitted. Disc brakes and/or non-period brake boosters are not permitted.
- (j) **Suspension:** The suspension system must remain unchanged from a specification evident during the group period on the type of vehicle depicted.
 - (i) Hydraulic shock absorbers are not permitted unless fitted as original equipment or used on the type of vehicle depicted.
 - (ii) Spherical or "Rose"-type joints are not permitted.
- (k) **Wheels and tyres:**
 - (i) Wheels must be period specifications in diameter, width and style.
 - (ii) Tyres must have a minimum aspect ratio of 70% as determined by the Tyre and Rim Association and, within the limitations of availability and practicality, must be consistent in general appearance and tread pattern with those fitted to the vehicle or similar vehicles during the group period.
 - (iii) In addition, the use of motorcycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating. The permitted list of motorcycle tyres appears in Permitted Motorcycle Tyre List: Groups J, K, L.
- (l) **Electrical equipment:** Alternators, electric fans, and any form of electronic ignition devices are not permitted. Electric starter motors may be fitted. Sports cars must be fitted with operable lighting and generating equipment compatible with the period.
- (m) **Fuel:** Only Pump Fuel or Leaded Racing Fuel or an approved fuel noted on the Certificate of Description and/or in the vehicle Log Book, as defined by the *Manual* Technical Appendix Schedule G are permitted.

1.2 SPECIFIC REQUIREMENTS:

Mechanical Features Peculiar to Speedway Cars

All cars will be judged for acceptance on their proven historical specifications but some general comments follow.

Rear Axle /Quick change differentials: The overwhelming majority of Speed cars use a 'torque tube' rear axle arrangement originally made from three Ford type rear axle trumpets. Post WW11 commercially produced units became available with the final design having live axle shafts. The centre or differential is always 'locked'. Again originally fabricated from mainly Ford parts but after WW11 the Halibrand centre became universal. This was fitted with a quick change drop gear feature. It is acknowledged that such quick change arrangements were constructed pre WW11 but fitment to an otherwise genuine Group J or K would require considerable proof. They are not acceptable on Jb or Kb cars.

Brakes: On Midgets, rear wheel only braking was common. Sprint cars generally had four wheel brakes. Due to the general lack of gear changing on oval circuits these were operated by hand lever. Depending on the type of circuit and surface raced on, the brakes were often 'biased' to aid cornering. Immediately after WW11 disc brakes became popular, sourced initially from surplus aircraft production, and by the early 1950s from specialist manufacturers. Note. As previously stated, all Speedway cars accepted into 5th Category will be required to be fitted with four wheel brakes.

Wheels and Tyres: Again, the American scene pre-empted road racing in wheel and tyre widths. By the close of the Group L period, rear wheels had reached eight inches in width however the tyres used were quite straight-sided so photographically they don't always appear so. When fitted with Dunlop Racing type which is sidewall 'baggy' in design, they appear very large for the period. Tyres were also highly developed to suit specific applications and many of these are still available but may not be suited to local use. It is therefore recommended that Ja, Ka, Jb and Kb cars comply with the general requirements for these groups. Group L cars be limited to a control tyre – Dunlop L series racing tyres. Wheels will be those sizes historically fitted to the particular car as required for Group L.

Carburation/Fuel Injection: Groups Jb and Kb - cars will have carburettors of American origin. SU type should not be acceptable. Group L cars – Hilborne Fuel Injection became commercially available and universal fitment after 1952. All cars in an earlier presentation should thus have carburettors. Note. Methanol was the most common if not universal fuel choice, certainly after 1952.

Suspension: Pre WW11 transverse front and rear leaf springs were common fitment. Front transverse leaf, rear torsion bars parallel to chassis centre line being most common in the L period.

Shock absorber /dampers - lever type pre-war, telescopic post-war.

Note: easily adjustable ride height, spring rate, steering ratio and even side to side wheel base were common in the Group L period.

1.3 Specific Requirements and Allowances

Brakes: All cars will be fitted with operable four wheel brakes under foot control; original hand brake levers may be retained and operable.

Gear Boxes: A maximum of three speed gear box boxes are permitted to replace in/out or two speed boxes. These gear boxes will be based on period American manufactured units, ratios are free.

Tyres: Group L cars be limited to a control tyre Dunlop L racing.

Livery: wherever reasonably possible J, K and L cars will be presented in their original period livery. Jb and Kb cars may be presented in period style livery. Advertising names and slogans will be period and not have current implications. It is noted that many American-based cars held their same racing number for their entire racing lives and where practical this should be accepted.

Group Jb Specials

2. VINTAGE PERIOD (PRE-1931)



One-off "special"-type vehicles constructed at any time using major components (ie, using engine, chassis, transmission, axles and suspension) manufactured prior to the end of 1930. Such vehicles must be similar in detailed specification and appearance and designed to depict vehicles that actually appeared in competition prior to the end of 1930.

2.1 Specific requirements additional to the General Requirements:

- (a) Post-1930 carburettors are not permitted except in the case of SU instruments, in which case later units up to and including "H" type are accepted.
- (b) Wheels: Minimum rim diameter is 18" and the maximum rim width is 3 1/2".

Group Kb

3. POST-VINTAGE PERIOD (1931-1940)



One-off "special" type vehicles constructed at any time using major components (ie, using engine, chassis transmission, axles and suspension) manufactured prior to the end of 1945. Such vehicles must be similar in detailed specification and appearance and designed to depict vehicles that actually appeared in competition prior to the end of 1940.

3.1 Specific requirements additional to the General Requirements:

- (a) **Post-1940 carburettors** are not permitted except in the case of SU instruments, in which case later units up to and including "H" type are accepted.
- (b) **Wheels and tyres:** Minimum rim diameter is 16" and the maximum rim width is 4".

Group Lc Specials

4. HISTORIC PRODUCTION SPORTS CARS (1941-1960) SQUARERIGGERS



Production sports cars recognised by CAMS/Motorsport Australia manufactured after 1 January 1941, but prior to 31 December 1960. Vehicles which are of such construction as to readily permit the removal of mudguards and windscreen – where these do not form an integral part of the body – may qualify for Group Lc. Where it can be demonstrated that a vehicle of the subject type competed in this form in the group period, these vehicles may compete in stripped form as racing cars or, with said equipment fitted, they may also compete as sports cars.

Vehicles may vary from original specifications only in a manner which is consistent with retaining the nature of a road registered and road used vehicle. In particular, no change to track, wheelbase, engine position or suspension medium may be made.

Engine and transmission must be of the type normally fitted to the model in question. Vehicles in this group are not required to have a racing history. Before commencing construction of a special it is most advisable that Motorsport Australia National Office or the State

Historic Eligibility Officer be contacted regarding the eligibility of the said vehicle and a submission for Approval in Principle be made.

4.1 Specific requirements additional to the General Requirements:

- (a) **Bodywork:**
 - (i) All elements of the bodywork - including external fuel tank if original equipment on the subject vehicle - must be original, save that cycle type mudguards may be used. Cycle-type mudguards, if fitted, must provide coverage of at least one third of the circumference of the tyres, over at least the full width of the wheel and tyre, as it is viewed both vertically and horizontally.
 - (ii) A steel bonnet may be replaced by a bonnet of alloy construction. Louvres may be added to or omitted from the bonnet. In the case of vehicles with multiple piece folding bonnets, the sides may be removed.
 - (iii) Original body bulkheads and fire walls must be intact and all doors must be operable. When competing as a racing car the removal of mudguards, lamps, spare wheel, running boards and mounting brackets is permitted.
- (b) **Cockpit:** The configuration and materials of the cockpit, in particular the steering wheel, instruments and seats, must be compatible with the group period. Electronic instruments are not permitted. The cockpit must be of a stripped rather than a specially constructed nature. The passenger seat may be removed when the vehicle is competing as a racing car.
- (c) **Engine:** The internal components of the engine are free save that the original cylinder block and cylinder head/s must be used.

- (i) The cylinder head/s may be modified provided such modification is effected only by the removal of metal.
 - (ii) Any increase in swept volume shall be in keeping with the practice of the period on that particular type of vehicle and engine, save that the crankshaft stroke must be to the original specifications.
 - (iii) Toothed belt drives are not permitted.
 - (iv) Dry sump lubrication system is not permitted unless original equipment.
- (d) **Exhaust systems:** The exhaust system is free but should be of a type compatible with the period.
- (e) **Induction systems:** Inlet manifolds are free but carburettors must be of the original make, model and number on the vehicle. The choke size is free. Superchargers, multi-choke carburettors or fuel injection are permitted only if part of the original specification for that make and model, and must remain unchanged from that original specification.
- (f) **Transmission:** Gearbox casings, gear selection mechanisms and the number of forward ratios must be to the original manufacturer's design specifications. Internal components are otherwise free.
- (g) **Final drive:** The external components of the final drive assembly must be unaltered from period specifications. Internal components are free.
- (h) **Brakes:** In the case of disc brake systems, the brake disc and calipers must be original.
- (i) Drum brakes may be modified or replaced with others of a period type. Drums and/or backing plates may be ventilated and/or fitted with cooling fins.
 - (ii) Dual/tandem master cylinders may be fitted.
 - (iii) Mechanical actuation may be converted to hydraulic operation.
 - (iv) Drum brakes may not be replaced by disc brakes.
- (i) **Suspension:** The suspension must be unaltered from the original specifications save that spring rates, ride height and damper settings may be altered.
- (i) Adjustable shock absorbers are not permitted.
 - (ii) Fore and aft axle location may be varied but transverse location may not be altered.
 - (iii) Spherical or "Rose"-type joints are not permitted.
- (j) **Wheels and tyres:** Must be unaltered from period specification on the subject vehicle in diameter and style.
- (i) Wheel sizes are to be as commonly used on vehicles of this type in the period, eg, MG TC: 16" diameter by 4" rim width.
 - (ii) In no circumstances may wheel diameter be less than 15" nor rim width greater than 5".
 - (iii) Tyres must have a minimum aspect ratio of 70% as determined by the Tyre and Rim Association and within the limitations of availability and practicality must be consistent in general appearance and tread pattern with those fitted to the vehicle or similar vehicles during the group period.
 - (iv) In addition, a selected list of motor cycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating.
 - (v) Short-life and low-profile tyres will not be permitted. Historic period design tyres made with modern "sticky" compounds are not acceptable. Tread patterns must be of period style.
 - (vi) The permitted list of motorcycle tyres appears in Permitted Motorcycle Tyre List: Groups J, K, L.
- (k) **Electrical equipment:** All electrical equipment must be unaltered from the original specifications and be fully operative.
- (i) Dynamo/generator may not be replaced by an alternator.
 - (ii) Electric fans and any form of electronic ignition devices are not permitted.
 - (iii) The generator and/or lighting equipment may be removed whilst vehicles are participating as racing cars.
- (l) **Optional equipment:** Optional equipment is permitted in this group only if detailed in either:
- (i) an original manufacturer's workshop manual; or
 - (ii) a spare parts catalogue; and
 - (iii) is specifically accepted by Motorsport Australia.