

TECHNICAL BULLETIN HISTORIC GROUP V REGULATIONS

REFERENCE:

CAMS 2005 Manual of Motor Sport, Section 8, Group V, (page 8-15)

RATIONALE:

To promulgate the regulations for Group V – Formula Vee single-seat racing cars pre-1975.

AUTHORITY:

This amendment was approved by the Historic Commission at their meeting on 3-4 September 2004 (Minute number HC828)

ACTION:

These are the definitive Regulations for Group V – Formula Vee single-seat racing cars pre-1975.

Group V

Formula Vee racing cars pre-1975.

The classification of vehicles within this group will be at the absolute discretion of CAMS.

The group is intended to cater for Formula Vee racing cars with a competition history established in the period between 1 January 1965 and 31 December 1974.

Consideration may also be given to the classification within this group of vehicles constructed between 1 January 1965 and 31 December 1974 but with a competition history established subsequent to 31 December 1974, or in some cases without a competition history, provided that:-

- The specification of the vehicle is consistent with the Formula Vee rules and general standard of technology in vehicles raced during the group period and;
- The vehicle is compatible in appearance with such vehicles.

Specific requirements additional to the General Requirements:

The general requirements set out in sections 3.1 and 3.2.1 of the 5th category regulations are applicable to all historic Formula Vee vehicles except where these provisions are in conflict with period Formula Vee regulations.

Period Rule Compliance:

While maintaining the original specification as required in section 3.2.1, historic Formula Vee vehicles must comply with all details of the Formula Vee regulations published in the 1974 CAMS manual, except in respect to the specific variations permitted below. Copies of the 1974 period regulations are available on request from the CAMS National Office.

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Variations Permitted From Original Period Specification:

(a) Wheels and Tyres: The make, type, specification and dimension of tyres used on Historic Formula Vee vehicles are those tyres approved by the Historic Commission, viz. the Dunlop CR82 (434).

Rim widths up to 4.5 inches are allowed.

(b) 12 Volt Battery: The use of a compact 12 volt battery is allowed.

(c) Lubrication System: An external oil filter and sump extensions up to a maximum extra capacity of 500cc are allowed.

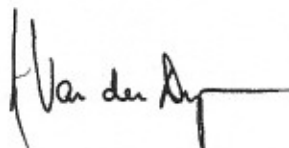
(d) Engine: The use of an FVAA camshaft is allowed. When using an FVAA camshaft an offset keyway to maintain standard timing specifications is allowed.
Bosch 009 ignition distributor is allowed.

(e) Mandatory Safety Requirements: In addition to the safety equipment requirements set out in section 3.1, all Historic Formula Vee vehicles must have the following safety modifications:

1. To reinforce the hollow LH front stub axle against breakage, the axle is to be fitted with an 8mm high tensile bolt or pin (grade 8.8 min.) Such pin or bolt shall be a minimum of 75mm in length, be inserted into the hole originally provided for the fitment of the speedometer cable and is to be held in place by resin.
2. To prevent loss of a rear wheel due to cracking of a rear brake drum, a steel diaphragm must be fitted between the rear wheel and the brake drum.



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Historic Touring Car Eligibility Committee	Murray Finlay (e)	Historic Technical Commissioners	

Formula Vee (1974)

The following is the Australian version of "Formula Vee", as adopted by the committee of the Formula Vee Association of Australia, and recognised and approved by CAMS.

The Formula Vee Association of Australia was formed in April 1969, comprising the Formula Vee Associations of New South Wales, South Australia, Tasmania and Victoria; it is recognised by Volkswagen Australia Ltd. and by CAMS.

No national or State championships may be held for this Formula.

Any driver wishing to compete in Formula Vee events must be a member of a State Association and abide by the rules and regulations of the Formula Vee Association of Australia.

Enquiries regarding interpretations of, and activities relating to, Formula Vee should be directed to the F.V.A.A. Secretary, c/o CAMS.

The Formula Vee Association of Australia reserves the right to nominate the brand of racing tyres used, but the safety requirements of CAMS regarding tyres must be adhered to.

The officers of each Formula Vee State Association derive the power, in conjunction with the Confederation of Australian Motor Sport, to police Formula Vee regulations. Breaches of rules requiring penal action will be referred by State officers to the Confederation of Australian Motor Sport for action within their judicial procedures. (Refer NCR 161.)

1. DEFINITION

A formula for single-seat, open wheel racing cars based on standard Volkswagen 1200 Series Type 1 sedan components, and restrictive in specifications so as to emphasise driver ability rather than design and preparation of the car. No component of the power train, front suspension or brakes may be altered, modified, or changed, nor be of other than VW manufacture, unless specifically authorised in these Regulations.

2. WEIGHT AND DIMENSIONS

Minimum weight, without fuel or driver—825 lb./374.5 kg.

Wheelbase, minimum—2,070.10 mm.

Wheelbase, maximum—2,120.90 mm.

Track, front—standard VW—51.4"/1,305.86 mm.

Track, rear—standard Volkswagen (To be measured at zero camber), but when using 1,300 cc. brake drums on the rear, the track tolerance permitted is plus or minus $\frac{1}{2}$ "/12 mm.

Overall length, minimum—123"/3,124.2 mm.

Overall length, maximum—127"/3,225.8 mm.

Body depth at firewall, minimum—25"/635.0 mm.

Body width at firewall, minimum—34"/863.6 mm.

Body dimensions must be achieved by a substantial portion of the body and not by attached fins, diaphanes or similar.

3. SUSPENSION

(a) FRONT—The front suspension and steering shall be standard Volkswagen as defined in Section 1. The following modifications are allowed:

- (i) Removal of one complete torsion bar, to allow installation of anti-sway bar/s. It is allowed to remove one or more leaves from the remaining torsion bar. Removal of rebound rubbers is allowed.
- (ii) No other modifications such as cutting, welding, or repositioning of other components is allowed unless authorised under these rules.
- (iii) Use of any shock absorber which can be mounted on the standard mounts.
- (iv) Relocation of the steering box to a central position, and replacement of the tie rods with others of a suitable length. The use of any tie rod ends is allowed.

- (v) Any steering column and steering wheel may be used.
- (vi) Standard steering arms may be altered but modification to the stub axle is not permitted.

(b) **REAR—**

- (i) The rear axle assembly shall be standard Volkswagen as defined in Section 1 and each axle shall be located horizontally by a single trailing arm pivotly attached to the frame forward of the axle. Axle tubes and brake assemblies may be rotated as desired.
- (ii) Coil springs shall provide a springing medium with telescopic shock absorbers mounted inside. The springs must be able to support the car.
- (iii) Cables, straps and/or positive stops may be used to limit positive camber.

Any anti-sway bars and/or camber control device may also be used.

- (c) Wheels shall be standard 15" x 4J as used on Volkswagen 1200 series one Australian model sedan.
- (d) Any size tyre may be fitted in accordance with CAMS requirements.

4. BRAKES

- (a) Brake drums, backing plates and wheel cylinders shall be standard Volkswagen sedan as defined in Section 1.
- (b) any lining material may be used on the brake shoes.
- (c) These cars shall be equipped with a dual braking system operated by a single control. In case of a leak or failure at any point of the system, effective braking power shall be maintained on at least two (2) wheels.
- (d) Any master cylinder/s may be used.
- (e) A separate hand brake (emergency brake) is not required.
- (f) The fitting of VW 1300 Sedan brake drums as replacement for the original 1200 drums is permitted, but the 1200 brake shoes only shall be permitted.

5. ENGINE

The engine shall be a standard VW automotive powerplant, as normally fitted to VW sedans as defined in Section 1.

Allowed:

- (a) Removal of the carburettor, air cleaner and choke mechanism.
- (b) Replacement of the standard exhaust system with any exhaust system terminating behind the rearmost part of the selector housing, in accordance with CAMS regulations on exhaust system length.
- (c) Lightening of the flywheel to a minimum of twelve lb.
- (d) Balancing of moving parts of the engine is permitted. Polishing of moving parts is not permitted, other than working surface (e.g. bearing faces, cam-followers).

In any set of components one component must be completely untouched —e.g. 4 pistons being balanced 1 piston must be untouched original.

In the case of connecting rods, however, one end of 1 rod must remain untouched.

- (e) Grooving and/or redrilling the crankshaft is not permitted.
- (f) No modifications or reconditioning whatsoever are to be made to the camshaft. Only camshaft/crankshaft timing according to Volkswagen specifications is allowed.
- (g) Polishing and porting of the intake and exhaust port is permitted, providing such porting and polishing does not enlarge the exhaust port beyond 33 mm. inside diameter at the flange face and the intake port beyond 29 mm. inside diameter at the flange face.
- (h) Valve guides may not be flushed off or modified in any way.

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- (i) Inserts are part of the ports and, as such, may be enlarged to maximum size.
- (j) Machining of the cylinder head at the barrel spigot contact face is allowed to achieve 43 cc. combustion chamber volume. No modification to combustion chamber shape, surface of finish is permitted.
- (k) The valve train assembly shall remain standard.
- (l) Matching of manifold flanges is permitted. No artificial turbulence devices may be fitted in the inlet tract. No machining, cutting or polishing of the inlet manifold is permitted unless specifically authorised within these regulations.
- (m) Removal of any cooling duct component does not include removal of fan, fan housing and fan blades. The fan must function normally.
- (n) Fitting of any standard Volkswagen carburettor originally supplied on engines for Volkswagen 1200 Series Type 1 Australian model sedan and the use of any size venturi or jets which may be fitted without alteration to the carburettor body. Modification of the float, so long as no change is made to the float chamber or float valve, is allowed.
- (o) Fitting of any standard Volkswagen automotive distributor. Advance curve may be adjusted.
- (p) Removal of the intake manifold heat riser tube.
- (q) Nothing must be done to interfere with the normal battery charging function of the generator.
- (r) The installation of baffles housed completely within the original oil sump and crankcase.
- (s) The use of an oil temperature indicating device in the crankcase.
- (t) The use of any standard Volkswagen oil pump. It is permitted to instal 1500 Volkswagen type oil pick-up pipe and enlarging inlet oil galley to suit 1500 pick-up.
- (u) The use of any standard Volkswagen valve springs, retainers and collets. Non-standard VW valves may be used but must be same size, type and weight as VW.
- (v) The following standard dimensions and tolerances of engine components are included as information and shall be observed:
 - Bore: 3.040"/77.21 mm.
 - Stroke: 2.520" + 0.005"/64 mm. + 0.1 mm.
 - Exhaust Valve Diameter: 1.102"/27.99 mm. (36 h.p.) or 1.18"/29.97 mm. (40 h.p.).
 - Inlet Valve Diameter: 1.18"/29.97 mm. (36 h.p.) or 1.24"/31.49 mm. (40 h.p.).
 - Minimum Capacity of Each Combustion Chamber in Head: 43 cc.
 - Minimum Depth, Top of Cylinder Barrel to Top of Piston: 0.039"/1 mm.
- (w) Normal accepted Volkswagen reconditioning processes within specifications as described in Section 5 of these rules. The camshaft is excluded from this allowance.
- (x) Any 6V VW starter motor may be fitted and must be capable of starting the engine at the start of the event; none of its parts may be removed during the event.

6. TRANSMISSION—REAR AXLE

The transmission-rear axle assembly shall be standard VW as defined in Section 1. The synchromesh must be in place and operating on at least three gears.

Allowed:

- (a) Installation of any standard Volkswagen gears including Australian Type 2 (transporter) and Type 3 (1500 sedan), which can be fitted without modification of any component of the transmission or of the gearset itself.

- (b) The transposing of the ring gear to provide proper axle rotation.
- (c) Removal of the handbrake linkage.
- (d) Alteration of the shock absorber mounts.
- (e) The transmission may not be installed in an inverted position.
- (f) The use of a limited slip device is prohibited.
- (g) Removal of reverse gear is disallowed, and it must be operable from the cockpit.
- (h) Any standard Volkswagen clutch may be used including alternative brands; however, no modification to flywheel for fitment is permitted.

7. BALLASTING

No ballasting is permitted.

8. FRAME

The frame must be constructed of steel tubing and of such design as to present no hazard to either the driver or other competitors.

9. BODY

- (a) The top of the rear decking must extend from the back of the firewall to a point in line with the rear of the selector housing, but may have air intake openings.
- (b) The rear trailing arms, coil springs and shock absorbers may not be faired in by covering or shrouding them away from the air stream.
- (c) The front mounting point or radius pad may be inside the trailing edge of the side body panel.
- (d) The driver's seat must be capable of being entered without the removal or manipulation of any component.
- (e) Firewall, floor and safety equipment must conform with the CAMS requirements.
- (f) Air ducting may be used provided it is attached to the body or the frame of the car. Ducting may not be made part of or attached in any way to the engine assembly.

10. NON-STANDARD PARTS

The use of the following non-standard VW replacement parts is allowed. These parts must be normal replacement parts and shall not result in any unauthorised modification of any other component.

- (a) Gaskets and seals
- (b) Piston rings
- (c) Wheel bearings
- (d) Connecting rod bearings and crankshaft main bearings
- (e) Fan belt
- (f) Valve guides (must comply with standard length of 64 mm)
- (g) Brake shoes and linings
- (h) Coil
- (i) Clutch and pressure plate
- (j) Shock absorbers
- (k) Piston and barrel sets of same size, type and weight as standard VW components
- (l) Torsion arm link pin
- (m) King pin sets
- (n) Axle boots
- (o) Voltage regulator

The following parts are permitted to be from any source, providing their use does not result in any unauthorised modification to any other component.

- (a) Fasteners (nuts, bolts, screws, etc.)
- (b) Wiring
- (c) Brake lines and fuel lines
- (d) Spark plugs
- (e) Master cylinders
- (f) 6-volt batteries
- (g) Carburettor jets and venturis