SPECIFICATIONS OF AUTOMOBILES

All vehicles in races and other speed events must comply with the General Requirements of Automobiles (see "General Requirements for Cars and Drivers" in the CAMS Manual of Motor Sport).

3rd Category – Touring Cars
Group 3D – Touring Car Masters Technical Regulations

1. PREAMBLE

The Australian Touring Car Masters will be a Series for automobiles that are visual period replicas of models that competed in Australian touring car circuit race series prior to 31 December, 1973, and models that competed elsewhere as Touring Cars prior to 31 December 1973, subject to the prior approval of CAMS.

Australian Classic Touring (3D) Cars Pty Ltd (ACN 121 090 079), hereinafter known as ACT3, is recognised by CAMS as the sole entity which may make recommendations regarding maintenance of and/or proposed changes to the present technical regulations for the conduct of competition activity for such automobiles.

2. GENERAL

2.1 Any aspect relating to the construction, modification and/or preparation of the automobile that is not specifically authorised in the present regulations and the associated CAMS Vehicle Homologation Document, CAMS Sporting Variants or CAMS Option Variants is prohibited.

2.2 Eligible Models: Eligible models of automobiles are listed in Appendix A to the present regulations. Additional models of automobile may be added to the list of Eligible Automobiles upon recommendation by ACT3 and subsequent approval by CAMS. Each automobile shall be the subject of a completed CAMS Homologation Document.

Eligible automobiles shall comply with the provisions of CAMS 3rd Category Touring Cars, Group 3D Sports Sedans (refer to "Race" in the CAMS Manual of Motor Sport) and the further provisions of the present regulations.

2.3 Homologation Requirements:

2.3.1 In all cases, when interpreting the present regulations, components on automobiles eligible to compete must be original equipment supplied by the manufacturer unless otherwise specified in the relevant CAMS Vehicle Homologation Document, CAMS Sporting Variants (SV) or CAMS Option Variants (VO).

2.3.2 Components shown in Option Variants (VO) may be used at the discretion of the competitor. Components shown in Sporting Variants (SV) must be used of necessity in their entirety.

2.4 Nuts and bolts: Throughout the automobile, any nut, bolt, screw may be replaced by any other nut, any other bolt, any other screw and have any kind of locking device (washer, lock nut etc).

2.5 Materials

Unless specifically authorised within the present regulations, the use of carbon fibre or carbon Kevlar® composite materials, or titanium alloys is prohibited.

3. WEIGHTS AND DIMENSIONS

3.1 The racing weight at any time including the driver with helmet and wearing all apparel shall not be less than as shown in Table 1:

Table 1

Capacity	Racing Weight*
5101cc to 6000cc	1570kg
4801cc to 5100cc	1520kg
3501cc to 4800cc	1360kg
2001 cc to 3500cc	1100kg
Under 2000cc	as per Homologation Documents

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*If an alternative weight, including its method of measurement, is specified in a CAMS Sporting Variant for a model, or in the event regulations, then this alternative weight will take precedence over the above table.

3.2 Ballast may be used to achieve the racing weight requirement, and if used shall comply with CAMS requirements.

4. BODYWORK

4.1 Body work including any subsequent repair of race day damage shall be to a tradesman-like standard and must permit the automobile to be presented in as near to original condition as possible.

4.2 It is permitted to remove the following components:

(a) External body trim or decoration may be removed if shown in VO.

(b) Unused brackets and supports for items not required to be retained. (eg, battery tray, exhaust mounting brackets etc).

4.3 Where the edges of mudguard panels protrude inside the wheel housing, they may be folded back against the outer panel. The external shape of the coachwork around the wheel arch opening may be reformed provided that the overall width of the automobile is not increased by more than 50mm. Such reformation shall be done in such a way as to retain the general original external appearance and profile of the automobile. Flares are specifically prohibited unless recognised in a VO.

4.4 The outer panel of the wheel arch may be modified or replaced to provide clearance for the complete wheel assembly. Should the wheel arch be a single pressing, the area permitted to be modified shall be shown in a VO.

4.5 It is permitted to modify the bonnet by removing the additional strengthening from its underside, provided that no strengthening is removed from any point less than 125mm from the outer perimeter along the sides of the bonnet, 250mm from the outer perimeter along the front of the bonnet, 180mm from the outer perimeter along the rear of the bonnet, and that the outer skin is not modified.

4.6 The bodyshell, subframes and sub-chassis may be reinforced by the addition of metal, provided that the additional metal follows the contour of the original material and is in contact with it. Each subframe isolation bush may be replaced by a bush of rigid material provided that the subframe remains in the same location and is removable.

4.7 **Chassis reinforcement:** It is permitted to add chassis reinforcement tubes as follows provided that they are attached only at each end by means of bolts:

(a) A single bar per side between the front firewall and front suspension tower, or alternatively to the chassis rails.

(b) Between the front suspension towers (a strut brace) or between the rear suspension towers.

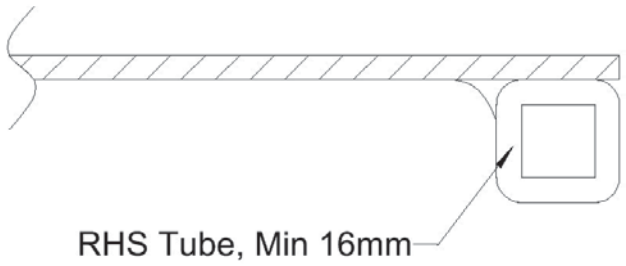
(c) Other gussets as permitted in VO.

4.8 The radiator support panel may be modified by the removal of metal to allow the passage of air ducting and fluid lines.

4.9 Holes may be drilled for the passage of fuel, oil or brake lines, or electric cables.

4.10 The floor of the boot/trunk may be modified by the removal of metal to facilitate the fitment of a replacement fuel tank. Any cut edge must be reinforced by an RHS tube of minimum dimension 16mm stitch welded to the edge as per Drawing 1.

Drawing 1



4.11 The transmission tunnel may be locally modified to facilitate the fitment of replacement drivetrain components and gear shift systems.

4.12 Each automobile must be fitted with a full safety cage in compliance with Schedule J (refer "General Requirements for Cars and Drivers" in the CAMS Manual of Motor Sport). No part of the safety cage may extend forward of the front firewall, save for mounting bolts.

4.13 Each automobile issued with any form of CAMS Log Book prior to 1 January 2000 may utilise a full safety cage in compliance with the regulations in force at the time of Log Book issue, as provided for in Article 8 of Schedule J. This does not obviate the need for compliance with Article 4.12 above. Where such automobile was originally fitted with a half safety cage, this must be replaced by one in compliance with Schedule J in the current CAMS Manual.

4.14 Unused supports (eg, spare wheel bracket) situated on the chassis/bodywork can be removed, unless they are supports for mechanical parts which cannot be moved or removed. Other panels or panel sections may be removed if specified in a VO.

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5. INTERIOR

5.1 The carpets, centre console, underfelt and body deadening material may be removed.

5.2 The driver's seat may be replaced by another in compliance with Schedule C (refer "General Requirements for Cars and Drivers"). Replacement front seats may be made from carbon/Kevlar® composite. It is strongly recommended that the seat be in compliance with the FIA 8855/98 standard. The front passenger's seat may be replaced by one similar to the driver's seat. The position of the driver's seat shall be in the same general location as per the original specifications. This may be further restricted in homologation SV. The type and location of the mounting brackets are free

5.3 The rear seat may be re-trimmed in a similar material, or replaced by another seat of similar appearance and material.

5.4 The steering wheel shall be replaced with one of a minimum 330mm diameter. The steering column may be relocated in a vertical plane. Where an automobile is changed from left- to right-hand drive, the steering column location must be mirrored about the automobile centreline.

5.5 The dashboard crash-pad may be distorted or cut to facilitate the passage of the safety cage tubes.

5.6 The headlining and rear door/rear side trim panels may be replaced by others of similar appearance and material.

5.7 The window regulators and associated mechanisms may be removed from the rear doors, opening quarter panel windows and front quarter windows, and the windows fixed into place. The fitting of ventilation ducting including additional plastic type window inserts above the standard window glass for the mounting of such is permitted.

5.8 A dead pedal or footrest may be fitted to the left of the clutch pedal. A floor covering of anti-slip style (eg, checker plate) may be bolted to the driver's side floor of the passenger compartment. The accelerator, clutch and brake pedal pads are free.

5.9 The passenger compartment shall be effectively sealed against fire, fluid and fumes at the firewall, floorpan and rear parcel shelf/bulkhead. The rear parcel shelf may be replaced by one made from metal.

5.10 The heater assembly, including controls, may be removed provided that demisting is assured. The addition of heating elements to the front screens is permitted. Any resultant opening in the firewall must be closed by a metal panel. Any resultant control panel opening must be closed.

5.11 The original instrument cluster may be replaced by a panel incorporating analogue gauges. Additional analogue instruments may be added to a separate panel or panels, preferably integrated into the existing dashboard structure. Where the original instrument cluster is retained, a tachometer, possibly incorporating a shift light, may be added to the steering column.

6. SUSPENSION AND STEERING

6.1 Unless otherwise specified in these regulations, all suspension and steering components and mounting bolts shall be as originally fitted by the manufacturer, or as homologated in VO.

6.1.1 Where an automobile utilises a double wishbone front suspension, the upright may be replaced. Each such replacement upright shall be of single piece forged or cast construction.

6.2 The inner suspension pivot points attached to the bodyshell/chassis may be relocated within a 50mm radius of the original. Metal may be added for this purpose.

6.3 Suspension joints on unsprung components may be replaced provided the same type of joint is maintained (ie, balljoint may not be replaced by spherical joint). Suspension control arms and uprights may be locally modified to facilitate such replacement.

6.4 Demountable steering arms and outer tie rod ends are free

6.5 Elastomeric suspension bushes may be replaced by other elastomeric bushes or spherical bearings. The suspension arm may be locally modified to facilitate the fitment of the spherical bearing so long as the effective length of the arm remains unchanged.

6.6 Each coil spring, leaf spring and torsion bar may be replaced provided the replacement spring is of the same type. Each coil spring seat may be made adjustable, but must remain concentric to with the original seat and attached to the same components. It is permitted to use a keeper spring in series with each coil spring. Rear hangers for leaf springs are free as to length and material. Leaf springs must be rigidly fixed to the rear axle assembly. Torsion bar housings may be made adjustable to permit ride height adjustment.

6.7 Suspension damper mounting points may be repositioned within a 50mm radius of the original. Metal may be added for this purpose.

6.8 The steering box or rack may be replaced by another if permitted in VO. Steering shafts and couplings are free. Automobiles may be converted from left- to right-hand drive.

6.9 The automobile may be fitted with power steering provided that the system utilises solely hydraulic assistance from a pump driven from the front of the engine crankshaft.

6.10 Sway bars and their mountings may be added or replaced freely. They must be solid, and no adjustment from the cockpit is permitted. Linkages from the suspension to the sway bar are free.

6.11 Additional locating arms may be added to the front or rear suspension. Mounting brackets for these may be added to the bodyshell but these must not pass into the interior of the automobile, save as specified in VO. Bushings for these arms are free. Original arms may be removed if authorised in a VO.

6.12 Rear suspension/leaf spring bushes may be replaced by others of free design. Replacement bushes may be welded into the arms.

6.13 Suspension bump stops are free, and devices to limit suspension droop are permitted.

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7. BRAKES

7.1 Front brakes must be disc brakes of ferrous material with maximum dimensions according to Table 2. Disc rotors may be grooved, but not drilled.

Table 2

Wheel Rim	Diameter	Thickness
15"	305mm	35mm
13"	270mm	35mm

7.2 Disc mounting bells are free. Wheel hubs are free but they must be made from ferrous material. Bearings and wheel studs are free.

7.3 Each brake caliper must have no more than four pistons. Brake caliper mounting brackets are free. Only one caliper per rotor is permitted.

7.4 Rear drum brakes may be either original, or be replaced by other drum brakes or disc brakes. If disc brakes are used, they must respect the maximum dimensions shown in Table 2.

7.5 Rear slave cylinders are free.

7.6 Brake master cylinders and power boosters may be removed or replaced. It is permitted to fit a brake proportioning system including the possibility of adjustment from the cockpit.

7.7 Brake pedal boxes are free, as is their location. The firewall, floor and dash may be locally modified to facilitate the fitment of replacement brake pedal boxes.

7.8 The brake system must be dual circuit with separate systems for the front and rear brakes.

7.9 It is permitted to add flexible pipes to carry air to the brakes of each front wheel. Brake protection shields/ducting on unsprung suspension components may be added, removed or replaced. Two front brake scoops are permitted provided they do not each exceed 300mm in width and 100mm in height. Where practical, front brake scoops should be either:

- incorporated in the front air dam/spoiler; or
- through the radiator support panel into the area behind the grill; and
- Where possible, replace park lights/driving lights.

7.10 Flexible brake hoses and rigid lines may be replaced with others of suitable material.

7.11 The hand brake and all associated components, linkages, brackets and cables may be disconnected or removed.

8. WHEELS AND TYRES

8.1 Each automobile with a swept engine volume of greater than 3500cc must use a wheel of 15" diameter, those with a swept engine volume up to 3500cc must use a 13" diameter unless otherwise specified in Recognition Document. The maximum rim width for all automobiles is 8".

8.2 Wheels must be a single homogenous casting of aluminium alloy. Wheels of an appearance similar to those produced prior to 31 December, 1973, are encouraged.

8.3 Each tyre shall be from the list of acceptable tyres shown in Table 3.

Table 3

Tyre Manufacturer	Type
Bridgestone	Potenza RE55
Dunlop	Formula R D93J, D 84J, D01J, D02Z
BF Goodrich	G-FORCE T/A Drag
Goodyear	Bluestreak Sports Car Special
Hoosier	Street TD, TD, Sports Car DOT Radial, Sports Car DOT Radial Wet
Toyo	Proxes 888
Yokohama	A008R, A032R (S compound only), A048 M Compound only)

8.4 Tyres may be grooved for wet weather use.

9. ENGINE

9.1 The cylinder block and heads shall either be those supplied as standard for the model, or as otherwise shown in VO. These components, having undergone the normal machining operations laid down by the manufacturer for series production, may be subjected to all tuning operations through finishing, scraping but not replacement. In other words provided that the origin of the series production part may always be established, its shape may be ground, balanced, adjusted, reduced or modified through machining. Chemical and heat treatment are allowed, in addition to the above.

Engine blocks may be modified to accept main bearing caps of an alternate design, including the possibility

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of additional fastenings.

The use of thin wall sleeves to repair cylinder damage is permitted.

9.2 The cylinder bore may be increased by 1.5mm (0.060") over that specified in the Homologation Form. Stroke shall remain standard unless permitted in VO.

9.3 Subject to any restrictions imposed in the present regulations, and Appendix B, all reciprocating and rotating components within the engine are free.

9.4 Machining of the cylinder head to vary the angle between the valve and cylinder head seating face is not permitted. The distance between the centreline of the inlet and exhaust valves in each cylinder may not be altered from the original.

9.5 Valves may be made from titanium alloy. The insertion or replacement of valve seat inserts is permitted provided the diameter of the insert does not exceed 110% of the valve diameter.

9.6 Internal camshaft timing chains may be replaced by external belt drives

9.7 Bearings, seals and gaskets are free.

9.8 Rocker, camshaft and timing covers are free provided they are mechanically interchangeable with the original components.

9.9 The oil system, including the sump and pump, is free. The use of external oil lines, oil pressure accumulators and dry sump systems is permitted. Dry sump tanks must not be mounted within the cockpit.

9.10 The crankcase must be ventilated to a catch can, and must remain at atmospheric pressure.

9.11 Engine mounts, being those assemblies between the cylinder block and crossmember/bodyshell are free. The location of the engine, as defined by the centreline of the crankshaft and the centreline of the number one cylinder bore, must remain unchanged.

10. TRANSMISSION AND DRIVETRAIN

10.1 The gearbox is free subject to the restrictions in 10.2 to 10.3 below.

10.2 Operation of the gearbox shall be exclusively manual, with gear selection effected only the driver to the exclusion of all automatic and semi-automatic mechanisms.

10.3 The maximum number of forward ratios is four, unless shown otherwise in the homologation document or VO. The gearbox must provide a reverse gear.

10.4 The shifter mechanism, including the location of the lever is free, provided that the shift remains non-sequential "H-pattern". Redundant standard shift components may be removed.

10.5 The rear crossmember may be modified or replaced to accommodate a replacement gearbox, where permitted. The powertrain rear mount is free.

10.6 The tailshaft assembly is free. A central bearing may be incorporated, whereupon a mounting system may be added to the floorpan/tunnel.

10.7 Final Drive assemblies are free provided that the gearset remains hypoid. For an automobile with independent suspension the final drive assembly must be mounted to the standard mounting positions. For an automobile with a live rear axle, the complete axle assembly may be replaced provided that the flange to flange measurement remains as standard, and the banjo housing is ferrous.

10.8 The differential is free, provided that it is passive.

11. INDUCTION SYSTEM

11.1 Carburettors may be replaced by one or more carburettors of free design. Carburettors must be entirely mechanical in operation, save for an electric choke. The inlet manifold on carburettored engines is free provided it is mechanically interchangeable with the original component.

11.2 A fuel injection system, where fitted as standard, may be retained in unmodified form, save for adjustment to fuel delivery quantity, or replaced by a carburettored system.

11.3 Air cleaners and air boxes are free. Ducting may be added to direct air to the induction system

12. IGNITION SYSTEM

12.1 The distributor may be replaced by another provided that it is interchangeable with the original. The ignition timing in relation to crankshaft position may only be varied by a mechanical system based on engine rotational speed and/or manifold vacuum.

12.2 Each automobile must have fitted a MSD 6AL CDI unit and rev limiter which is sealed. The maximum allowable engine rotational speed limits shall be as per Table 4. Any variation to this will be specified by Homologation SV.

Table 4

Engine Capacity	Revs
5101 - 6000	7500
4801 - 5100	7900
3501 - 4800	7900
2001 - 3500	8000
up to 2000	9000

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12.3 Spark plugs and plug leads are free.

12.4 Other than the rev limiter required by article 12.3 above, the fitment of any device, the effect of which is to interrupt the ignition system, is prohibited.

13. ELECTRICAL SYSTEM

13.1 The alternator is free.

13.2 The battery and its location are free provided they are covered to prevent leakage and short circuits.

13.3 All fuses, wiring, relays and switches are free.

13.4 All electrically operated systems may be removed save for the following:

(a) either high or low headlight beam
(b) tail lights
(c) stop lights
(d) engine starting system
(e) windscreen wipers

13.5 A high-intensity rain light is strongly recommended.

14. FUEL AND FUEL SYSTEM

14.1 Fuel shall be Unleaded Fuel as specified in Schedule G (refer "General Requirements for Cars and Drivers"), save that alcohol based fuels are not permitted.

14.2 Fuel pumps are free. Electrically-operated pumps may replace mechanical ones and their location is free. Fuel lines and filters are free. Fuel lines may pass through the cockpit but there must be no joins save at the firewalls.

14.3 The fuel tank may be replaced. The replacement fuel tank may be mounted in the same general location, or within the boot/trunk (refer to Article 4.10). The fuel filler may be located in the original location, or within the boot/trunk; if the latter it must be fitted with a splash tray draining outside of the automobile. Each new car issued with a Log Book after 1 January 2008 shall be fitted with a fuel tank to either the FIA FT3 standard or the SFI 28.1 standard.

15. POWERTRAIN COOLING

15.1 The water pump is free provided that it is driven in the same manner as the original pump. Additional cooling lines may be added to the engine. Holes may be drilled and tapped in the block and heads for this purpose.

15.2 The radiator is free provided that it is mounted in the same general location.

15.3 Engine oil coolers may be added freely.

15.4 Cooling systems, possibly incorporating pumps, may be added for the purpose of cooling the oil within the transmission and final drive assemblies. The radiators/heat exchangers must be mounted outside of the cockpit.

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APPENDIX A
Eligible Models

Class	Make	Model	Year / Series	Engine
A	Ford	Mustang	69 - 71	302B / 351 W
A	Ford	Falcon	XW	351 W
A	Ford	Falcon	XY	351 C
A	Ford	Falcon GT 2-door	XA	351
A	Holden	Monaro	HG	350
A	Holden	Monaro	HQ	350
A	Chevrolet	Camaro	67 - 69	350
A	Chevrolet	Nova 2-door	65 - 67	327 / 350
A	Valiant	Charger E55	71-73 VH VJ	V8 340 ci
B	Ford	Mustang	65 - 67	289W
B	Ford	Mustang	67 - 68	302W
B	Ford	Falcon Sprint	64 - 65	289W
B	Holden	Monaro	HK, HT	327
B	Holden	Monaro	HQ	308
B	Valiant	Charger	VH	6-cyl (All)
B	Valiant	Pacer 4-door	69 - 70 / VF	245ci 6-cyl
B	Valiant	Pacer 2-door	1971	245ci 6-cyl
B	Torana	GTR / XU1	LJ	6-cyl (All)
C	Ford	Capri	69 - 71	V6 (All)
C	Ford	Escort Mk 1	Mk 1	4-cyl up to 2.0L
C	Porsche	SC	68 - 73	up to 2.7L
D	Morris	Cooper / Cooper S	Mk1 / 2	1275
D	Nissan / Datsun	510 (1600)	68 - 73	4-cyl up to 2.0L
D	Ford	Cortina	Mk1	1598

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APPENDIX B
V8 Engine Specs

350 / 327 CHEVROLET

Engine block:	The original type of engine block as used in the make and model may be used.		
Alternative blocks:	GM Goodwrench 350	Part No. 10066034	
	Dart "Little M" SBC Iron Block	Part No. 31131111	
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.		
Alternative heads:	GM Goodwrench	Part No. 88958692 / 12480092 Part No: 10134392 / 12480034	Casting No: 3991492 Casting No: 12480034
	World Products "Sportsman II"	Part No. WOR-011150	

FORD 351 CLEVELAND

Engine block:	The original type of engine block as used in the make and model may be used.	
Alternative blocks:	Dart "Iron Eagle"	Part No. 31385195
	Ford Motorsport	Part No. M-6010-V351
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.	

FORD BOSS 302

Engine block:	The original type of engine block as used in the make and model may be used.	
Alternative blocks:	Ford Motorsport	Part No. M-6010-BOSS302
	Ford Motorsport	Part No. M-6010-R302
	Dart "Iron Eagle"	Part No. 31384175
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.	

FORD 289/302 WINDSOR

Engine block:	The original type of engine block as used in the make and model may be used.	
Alternative blocks:	Ford Motorsport	Part No. M-6010-BOSS302
	Ford Motorsport	Part No. M-6010-R302
	Dart "Iron Eagle"	Part No. 31384175
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.	
Alternative heads:	World Products Windsor Junior	Part No. WOR 053030

FORD 351 WINDSOR

Engine block:	The original type of engine block as used in the make and model may be used.	
Alternative blocks:	Ford Motorsport	Part No. M-6010-W351
	Dart	"Iron Eagle" Part No. 31385135
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.	
Alternative heads:	World Products Windsor Senior	Part No. WOR 053040

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308 HOLDEN

Engine block:	The original type of engine block as used in the make and model may be used. The "5L" block may be used.
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.
Alternative heads:	Any General Motors Holden "cast iron" cylinder head used in production for a "308" five litre V8 carburettor only version engine may be used in place of the original with no additional technical requirements being necessary at this date. Yella Terra aluminium cylinder head Part No: ABH308-3

VALIANT 340 E55 *

Engine block:	The original type of engine block as used in the make and model may be used.
Alternative blocks:	P4876 673AC P4876674AC P4510020
Cylinder heads:	The original type of cylinder heads as used in the make and model may be used.
Alternative heads:	P500 7445AB P5007708AV P5249769 P4510021

* NB: all cylinder blocks are manufactured from cast iron

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