

3.11.3 ALTERED**CLASS DESIGNATION: /A, /AA, /AI, /AIA****CLASS HANDICAP SYSTEM - FULL TREE START****ELIMINATOR:****COMPETITION**

Competition Eliminator, Altered – Steve Martin (High Octane Photos)

Class Description;

Derived from altered wheelbase Hot Rods of the fifties, Altered caters for cars radically modified for Drag Racing, with altered replicas of production automotive bodies produced in 1948 or earlier. Unlimited engine modifications are permitted in most cases, with power adding allowed in some Altered classes. Chassis and drivetrain may be modified or relocated within Class Regulations.

Altered type vehicles are required to be centre steer. Replica Production Automotive type Sedans or Coupes and derivatives, deemed as Hot Rod, must have been originally produced in 1948 or earlier and are not required to have centre steer.

- ◇ **NOTE: For D/AA engine must be sealed prior to competition due to level of engine restrictions.**

Class Designations;

AA/A, AA/AA, BB/A, BB/AA, CC/AA, EE/A, EE/AA, FF/A, FF/AA,

RR/AI, RR/AIA, RRR/AI, RRR/AIA,

A/A, A/AA, B/A, B/AA, C/AA, D/AA, E/A, E/AA, F/A, F/AA

The suffix A denotes vehicles using OEM planetary transmissions (refer Definitions, "OEM Planetary Transmission") and torque converters, which will use a different Class Handicap. The suffix I denotes EFI. The suffix A denotes automatic transmission.



Class Details/ Weightbreaks;

Designation	Weightbreak
AA/A & AA/AA	<p>107.95 kg/litre (3.90 lbs/cube) or more for V8 engine using Hemi or non-water jacketed cylinder heads. Maximum of three valves and one spark plug per cylinder. Mechanical Supercharging/ Turbocharging or Nitrous Oxide injection permitted. Billet, forged or cast Aluminium blocks permitted.</p> <p>99.65 kg/litre (3.60 lbs/cube) or more, for V8 engines using cast water jacketed canted valve or true wedge cylinder heads. Maximum of two valves and one spark plug per cylinder. Mechanical Supercharging/ Turbocharging or Nitrous Oxide injection permitted. Billet, forged or cast Aluminium blocks permitted.</p>
BB/A & BB/AA	<p>134.25 kg/litre (4.85 lbs/cube) or more for V8 engines using Hemi or non-water jacket cylinder heads and Iron or cast Aluminium blocks. Maximum of two valves and one spark plug per cylinder. Mechanical Supercharging/ Turbocharging or Nitrous Oxide injection permitted.</p> <p>125.94 kg/litre (4.55 lbs/cube) or more, for V8 engines using cast water jacketed canted valve or true wedge cylinder heads and Iron or cast Aluminium blocks. Maximum of two valves and one spark plug per cylinder. Mechanical Supercharging/ Turbocharging or Nitrous Oxide injection permitted.</p>
CC/AA	<p>134.25 kg/litre (4.85 lbs per/cube) or more, for V8 engines using Iron or cast Aluminium blocks with capacity limit of 366 cubic inches. Cast water jacketed true wedge or canted valve cylinder heads only, Aluminium castings are optional. Mechanical Supercharging only, limited to maximum of 8-71 GM with standard rotor length, diameter and helix. Refer Class Regulations.</p>
EE/A & EE/AA	<p>166.07 kg/litre (6.00 lbs/cube) or more power added using carburetion, mechanical or electronic fuel injection. Restricted to 6 or V8 cylinder engines using Cast Iron or cast Aluminium cylinder blocks with a maximum capacity of 285 cubic inches. No billet engine blocks. Factory or aftermarket cast Aluminium or Cast Iron cylinder heads only. No billet cylinder heads. Turbocharged engines using EFI must use ANDRA approved ECU software limited to maximum 40 psi (2.7 bar) boost. Limited to one non-adjustable MAP sensor with no restriction in line between MAP sensor and ECU. Minimum weight 544.31 kg (1200 lbs) including driver.</p>
FF/A & FF/AA	<p>276.79 kg/litre (10.00 lbs/cube) or more power added using carburetion, mechanical or electronic fuel injection. Restricted to 4 cylinder engines only. Motorcycle engines allowed but must have integral gearbox. Turbocharged engines using EFI must use ANDRA approved ECU software limited to maximum 40 psi (2.7 bar) boost. Limited to one non-adjustable MAP sensor with no restriction in line between MAP sensor and ECU. Minimum weight including driver; 408.23 kg (900 lbs) for motorcycle engines, or 453.59 kg (1000 lbs) for automobile engines.</p>

Designation	Weightbreak
RR/AI & RR/AIA	259.49 kg/litre (9.375 lbs/cube) or more for an EFI two rotor, Turbocharged engine using ANDRA approved ECU software. Limited to 40psi (2.7bar) boost. Limited to one non-adjustable MAP sensor with no restrictions in line between MAP sensor and ECU.
RRR/AI & RRR/AIA	179.92 kg/litre (6.50 lbs/cube) or more for an EFI triple rotor, Turbocharged engine using ANDRA approved ECU software and boost limiting valve/s. Limited to maximum 40psi (2.7bar) boost. Limited to one nonadjustable MAP sensor with no restriction in line between MAP sensor and ECU.
A/A & A/AA	94.11 kg/litre (3.40 lbs/cube) or more, no power adders. Aluminium blocks permitted.
B/A & B/AA	124.60 kg/litre (4.50 lbs/cube) or more, no power adders. Iron blocks only.
C/AA	124.56 kg/litre (4.50 lbs/cube) or more, no power adders. Restricted to V8 engines using Iron blocks with a maximum capacity of 410 cubic inches. Minimum weight 725.75 kg (1600 lbs) including driver.
D/AA	124.56 kg/litre (4.50 lbs/cube) or more, no power adders. Minimum weight 693.99 kg (1530 lbs). Engine size restricted to 340.00 to 365.00 cubic inches. RPM limit for D/AA is 9200 rpm.
E/A & E/AA	138.39 kg/litre (5.00 lbs/cube) or more, no power adders, using carburetion, mechanical or electronic fuel injection. Restricted to 6 or V8 cylinder engines using Cast Iron or cast Aluminium blocks with a maximum capacity of 285 cubic inches. No billet engine blocks. Factory or aftermarket cast Aluminium or Cast Iron cylinder heads only. No billet cylinder heads. Minimum weight 453.59 kg (1000 lbs) including driver.
F/A & F/AA	152.23 kg/litre (5.50 lbs/cube) or more, no power adders, using carburetion, mechanical or electronic fuel injection. Restricted to four cylinder automobile engines only. No Motorcycle engines allowed. Minimum weight including driver 453.59 kg (1000 lbs).

Engine: Must be an automobile type engine, excepting FF/A and FF/AA, year, make and model optional. Any modification may be made to the engine. No more than one engine permitted. Any engine set-back allowed. Rear engine location is not permitted. Competition Eliminator is restricted to V8 engines only, excepting EE/A, EE/AA E/A, E/AA F/A, F/AA, FF/A and FF/AA.

Aluminium Alloy (non-billet) engine blocks permitted in all Competition Altered classes except C/AA.

D/AA permitted to use OEM Aluminium blocks but only in combination with original configuration and bolt pattern LS heads D/AA engine size restricted to 340.00 to 365.00 cubic inches. Maximum Bore Size 4.080. Camshaft restricted to 55mm diameter core, 0.800 maximum valve lift measured at the valve. Roller lifters permitted with a maximum 0.904 inch diameter. Maximum RPM limit for D/AA is 9200 rpm. D/AA vehicles must have the ability to provide evidence of compliance with RPM limit, which may be checked by ANDRA Officials at any time at their discretion. D/AA wet sump only, external oil pump permitted but limited to either single stage pump with separate vacuum pump or two stage wet/ vacuum pump.

Cylinder Heads: Excepting EE/A, EE/AA, E/A, E/AA, D/AA and C/AA, any cylinder head or modification permitted.

EE/AA, EE/A, E/A and E/AA limited to cast cylinder heads.

D/AA any OEM or non-billet aftermarket inline valve cylinder head permitted (canted valve, splayed valve or billet cylinder heads not permitted).

For C/AA only, any mass produced OEM Cast Iron cylinder head permitted, or any of the following aftermarket Cast Iron cylinder heads are permitted;

- a. Chevrolet: GM Cast Iron Bowtie (all), World Products-Sportsman II 011150, Casting # I-037 and S/R Casting # I-052
- b. Chrysler: Mopar Performance - W2 (all)
- c. Ford: World Products - 053030, Casting # I-056 and # I-057
World Products - 053040, Casting # I-061

For C/AA only, the following Aluminium cylinder heads are permitted;

- a. **Chevrolet:** Part No 14044861-2 (Casting No 14044861)
Part No 14011076 (Casting No 14011077)
Part No 12363410 (supersedes 14011076-7)
Part No 19331427
Brodix Dragon Slayer DS225 P/N: 1320000
Brodix Race Rite RR200 P/N: 1010002 A (Angle Plug) and 1010003 S (Straight Plug)
- b. **Chrysler/Mopar:** Part No P4529335 (Stage V1), Part No 4349600
Brodix B1 BA 195 P/N: 3180000
Trickflow Specialties P/N: TFS-6141T783-C00
Indy 360-1, Indy 360-2
- c. **Ford:** Part No TFS-A460 or M-6049-B460
Part No M-6049-A429 or M-6049-B429
- d. **Ford Cleveland:** Edelbrock Performer RPM P/N: 61629
Trickflow Specialties P/N: TFS-51616203-C00
- e. **Ford Windsor:** Air Flow Research P/N:1492 or 1422
Brodix IKF P/N: 1501000
Edelbrock Performer RPM P/N: 60259
- f. **Holden:** Edelbrock Performer RPM P/N: 61379
Speedmaster P/N: SM 3072

◇ **NOTE: Any cylinder heads not listed may be submitted to ANDRA for approval.**

For C/AA angle milling of cylinder heads permitted.

All permitted cylinder heads must have a standard port configuration and valve angle ('configuration' includes valve stem angle and port arrangement).

Inlet and exhaust ports may be enlarged, but no material (metallic or otherwise) may be added to the casting inside the ports or combustion chamber, except in the case of genuine repairs where material may be added with the only purpose to replace the original metal.

In C/AA, apart from genuine repairs which are limited to two cylinders only. **Details of all genuine repairs must be submitted to technical@andra.com.au for approval prior to commencement of the repair. Details must include clear images of the type of damage and the intended repair method. Images of the final repaired cylinder head must also be provided to demonstrate that the repair has not significantly altered the configuration of the cylinder heads for purposes of increasing performance.** Genuine repairs are defined as a repair for the intent of maintaining original design specifications, and must be localised to the specific area of the fault. Replacement of valve guides and seats is permitted.

Sealing agent, gasket or any other material must not protrude, into any inlet or exhaust port past the original face.

Exhaust flange adaptor plates may be fitted to the original exhaust faces, but no part of the adaptor, header flange, flange gasket, or exhaust may protrude in to the port past its original outside face.

Lower Engine Containment Device: Required on all piston engine cars using a Supercharger, Turbocharger or Nitrous Oxide with an ET quicker than 8.999 seconds (1/4 mile) / 5.731 seconds (1/8 mile).

Induction: Excepting C/AA, AA/A AA/AA, BB/A, BB/AA and CC/AA any carburettor, mechanical or electronic fuel injection system permitted. Competitors using EFI must use ANDRA approved/ nominated ECU software.

AA/A, AA/AA, BB/A, BB/AA, CC/AA, C/AA limited to carburettor or mechanical fuel injection. EFI is compulsory in RR/AI and RRR/AI using ANDRA approved software.

C/AA limited to mass produced cast inlet manifold, which must be cast in a single piece with only machining of faces, internal porting and welded repairs of minor damage permitted, and one four venturi, 750 cfm Holley carburettor, List No. 0-3310(s)/2 - /7 (Petrol), 0-4779(s) (Petrol), or 0-9645(s) (Methanol). An "S" suffix after the part number, denoting the finish of the unit will be accepted. Use of earlier carburettors with list numbers other than those noted may be approved by ANDRA. Fuel bowl extensions permitted. Standard choke body, base plate and venturi diameters must be retained, along with throttle shafts, blades and screws. No "Dominator" type or modified units permitted. C/AA will also be permitted to use following approved 0-3310 direct replacement carburettors - Quick Fuel SSR-780-AU-M and SSR-780-AU-V.

D/AA restricted to a maximum of one carburettor with a maximum of four venturis or Single Throttle Body EFI to maximum of 4150 Holley bolt pattern spacing, mass produced cast aluminium manifold only, internal porting and welded repairs of minor damage permitted. Tunnel Ram plenum type manifolds not permitted.

Entire engine and induction regulations as per current Super Stock E/MSA and E/APA requirements.

Fuel: Restricted to Ethanol, Methanol or Petrol only. D/AA restricted to any ANDRA approved Unleaded Fuel Only (no E85 or Alcohol).

Superchargers: For TA/A refer "Altered TA/A". AA/A, AA/AA, BB/A, BB/AA, EE/A and EE/AA will use the following Supercharger overdrive limits;

- Standard Rootes 14/71 - .00322 x cubic inches, 50% maximum.
- High helix Rootes 16/71 - .00285 x cubic inches, 33% maximum.
- High helix Rootes 14/71 - .00300 x cubic inches, 40% maximum.
- Screw type with rotor diameter 215.9 mm (8.5 inch) or less manufactured after 31st December 1994 - .00369 x cubic inches, 72% maximum.
- Screw type with rotor diameter 215.9 mm (8.5 inch) or less manufactured prior to 31st December 1994 - 00408 x cubic inches, 90% maximum.
- Screw type with rotor diameter greater than 215.9 mm (8.5 inch) - .00261 x cubic inches, 22 % maximum.

◇ **The rounding up of overdrive calculations will not be permitted.**

Turbochargers: Vehicles with EFI Limited to maximum 40psi (2.7bar) boost. Refer Power Adders, Turbochargers.

Intercooler: Permitted.

Bellypan: Permitted rearward of the front engine plate. Streamlining and/or air diffusing not permitted.

Self Starting: Required. Push starts not permitted.

Batteries: All wet cell batteries must be isolated from driver's compartment and must be securely mounted. Refer Electric, Batteries.

Aerodynamic Aids/ Nose Cone: Maximum projection ahead of axle: 1016 mm (40 inches) from the centre of the forward most wheel. Minimum ground clearance: 75 mm (3 inches). Maximum Width of Nose Cone (not including wings) - No part of the nose cone should protrude outward past the outer most edge of front wheel/ tyre, measured/ checked with the front wheels pointing straight. Maximum rise forward of the front axle: 610 mm (24 inches) from the ground. Projection behind front axle not permitted. Spill plates allowed, but not to exceed 305 mm (12 inches) in height from the ground. Refer Definitions, "Aerodynamic Aid" - Nose Cones that extend rearward of vertical centreline of the front wheel are not acceptable.

Airfoils/Wings: Permitted. Front wing maximum width, as measured from the left and right outer most points of the front wing/ airfoil to be no greater than 60 inches (1525mm), including spill plates if installed.

Ballast: Permitted.

Body: Coupe, Sedan and Roadster type body styles permitted. Modified and/or restyled OEM or composite bodies permitted. Body style must retain a strong resemblance to vehicles produced in 1948 or earlier. The driver's compartment must be so designed as to prevent the driver's body or limbs from coming into contact with the wheels, tyres, exhaust, or racing surface in the event of an upset. Roadster body styles may enclose the driver's compartment where driver access is not restricted. Enclosed body styles, when centre steer, must be fitted with a roof opening or hatch located to allow driver entry and exit measuring 609 mm x 609 mm (24 sq inch). Sedan chassis vehicles must be fitted with driver's side door as a minimum. Mechanical door handles accessible from both inside and outside required. Side and front windows must maintain a minimum height of 125 mm (5 inches) measured vertically. Windscreen openings must not impair driver's forward vision. Bonnet is optional.

Driver: Must sit behind engine. Driver's body must be completely within the car's body contour and no part of the driver may extend behind the rear axle. Any car which has no crossmember above the driver's legs should have strap or device to prevent the driver's legs from projecting outside the chassis.

Clutch: Refer "Altered TA/A" for TA/A provisions. Otherwise, Multi-Stage/ Lock-Up clutches prohibited. Clutch must be manually operated by the driver's foot. Electronics, pneumatics, hydraulics or any other device may in no way affect the clutch system, and the throwout bearing must release all fingers, levers or stages simultaneously. Staged or variable release clutches of any description prohibited.

Rear Axle: Spools permitted. Fully floating hubs required in TA/A, AA/A, AA/AA, BB/A, BB/AA and CC/AA, EE/A, EE/AA. Four wheel drive or front wheel drive not permitted. Refer Drivetrain, Rear Axle.

Transmission: Each car in this section must have some means of disengaging the engine from the final drive, and an operative reverse gear is required. Aftermarket planetary transmissions using a clutch or torque converter, or aftermarket clutchless manual transmissions are only permitted in AA/A, BB/A, A/A, B/A, E/A, EE/A, RR/AI and RRR/AI classes to a maximum of five forward speeds. All automatic classes limited to automotive based OEM planetary transmission of up to three speeds using a torque converter. FF/A and FF/AA reverse gear not required and 6 forward speeds allowed when using a motorcycle engine with an integral gearbox.

D/AA automatic transmission only with no lock up convertor.

Electronic Management: Electronic gear shifting devices permitted. RR/AI must use ANDRA approved ECU software. Refer Electrical, Electronic Control Units.

Delay Devices: Not permitted in Group 1 or Group 2.

Wheelbase: Minimum wheelbase 92 inches (2337 mm). Maximum wheelbase 125 inches (3175 mm) measured from the forward most front spindle. Variation from left to right, maximum of 2 inches (50 mm).

Wheels/ Tyres: Suitably rated go kart, or similar, wheels/ tyres permitted on vehicles with class designations of "mini Funny Car" or "mini Dragster", weighing less than 362.87 kg (800 lbs). Motorcycle wheels or automotive type wire wheels are not permitted.

Suspension: Operative automotive type front suspension is required on vehicles less than 115 inch (2921 mm) wheelbase. Solid front ends allowed with wheelbase of 115 inch (2921 mm) or more. Solid rear ends permitted on all vehicles. Suspension systems using a single shock absorber per axle are permitted. Refer Drivetrain, Suspension.

Windscreen and Windows: Optional in open cars. Where required must be in good condition and may be fully operative. All non-operative windows must be permanently closed. Clear Polycarbonate of a minimum of 3.0 mm (1/8 inch) thickness may be used in any window to replace original glass. Front windscreen must be clear on all vehicles. Side and front windows must maintain a minimum height of 125 mm (5 inches) measured vertically. Windscreen openings must not impair driver's forward vision. Refer Body, Windows and Windshields.

Parachute: Compulsory. Dual parachutes with separate shroud line attachments mandatory on vehicles exceeding 200 mph (320 kph).

Licence Requirements: Endorsed GOL required for TA/A. All other vehicles Group 2 UDL as a minimum.

Technical Inspection and Vehicle Logbook: Required.