



WORLD OF MOTORSPORT ZA

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NATIONAL MOTOR SPORT FEDERATION

WITH INTERNATIONAL FEDERATION AFFILIATION

2020

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2020-2021 WOMZA SALOON CLOCKS CLASSES Dirt 1660 MODIFIEDS / 2.1LT MODIFIEDS / HOTRODS

INTRODUCTION:

Competitor age restriction general:

All classes except Junior Stock Rods – see class rule

- Minimum age 13 years old for club level entries only;
- Competitor's minimum age - 14 years old are permitted to enter this class at regional and national level with the approval of their promoter and local TC Representative.

Vehicle widths and lengths general:

- Reference to length and widths in the regulations shall be defined as, length, measure in the direction of, from the front of the vehicle to the back (includes bumpers) but excludes purpose built pipe bumpers and width being measured from left to right of the vehicle, (body work only), excludes any side pipe rails;

SAFETY:

- Limited contact racing as described;
- Limited contact shall mean nothing more than the coming together of vehicles caused by close racing, minimal shunting and nudging shall be permitted due to close racing;
- Upon contact being made unintentionally or accidentally, the following vehicle shall leave enough space for the leading vehicle to regain its position on the track;
- In limited contact, the intention is to permit minimal contact but the contact shall not be forceful enough to cause the lead vehicle to be placed in a different race line involuntarily;
- Ensure that all joints in construction are welded properly – minimum 75%;
- Sump, gearbox and differential plugs are to be wired securely;
- The installation of Fire extinguishers shall remain optional, however, it is highly recommended to have fire extinguishers fitted in the competitor compartment. All installations have to be well secured thus prevent the extinguisher from dislodging upon an impact;

SAFETY / TECHNICAL & CONSTRUCTION REGULATIONS

CLASS TECHNICAL REGULATIONS

Anything not specifically mentioned or what is not written, is not permissible

- No “in car” adjustments permitted, except for brake balancing;
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	DESCRIPTION	1660 MODS	2.1 LT MODS	HOT-RODS
GSTC1	<u>ELIGIBILITY OF VEHICLE AND BODIES:</u>			
1.1	Any Saloon car body, Space Frames	✓	✓	✓
1.1.1	LDV Makes and Models only permitted – load capacity not to exceed 850kg Nissan 1400 / Nissan NP200 / Toyota 1200 / Ford Bantam / Mazda Rustler Proton Arena / Fiat 128 / VW Golf Caddy / Opel Corsa;	✓	✗	✗
1.1.2	Station wagons and panel vans;	✓	✗	✗
1.2	The body utilized should have been powered by a four-cylinder or three-cylinder piston driven or rotary engine;	✓	✓	✓
1.3	Any saloon body replicas may be constructed as a space frame with body panels to be solid shape – no patches, no cladding bodywork must be panels or a unit;	✓	✓	✓
1.4	Bootlids - All boot lids must be retained, and may be replaced with fiberglass replicas with a minimum thickness of 2mm;	✓	✓	✓
1.5.1	Silhouette of all doors to remain standard;	✓	✓	✓
1.5.2	Competitor door may not be cut away for ease of access; If the door is cut away for ease of access, a hinge arrangement to be fitted with a flap to bring the door back to its original shape/height;	✗	✗	✗
1.6	Front or Rear Wheel Drive permitted;	✓	✓	✓
1.7	No age restriction to model of vehicle being utilized;	✓	✓	✓
1.8	Engine manufacturer interchangeable with different body manufacturer;	✓	✓	✓
GSTC2.	<u>Fire Walls/Protector Walls</u>			
2.1	Vehicles must have metal firewalls between the driver's compartment and engine, between driver's compartment and fuel cell or fuel tank;	☞	☞	☞
2.2	All firewalls are to be constructed of metal only;	☞	☞	☞
2.3	Plastic, fiberglass and rubber fire walls are not permitted;	✗	✗	✗
2.4	Fire walls will not have any holes, other than where pipes and lead protrude fire wall with precise fitment;	☞	☞	☞
GSTC3.	<u>VEHICLE CONSTRUCTION</u>			
3.1	Front wheel drive cars may be converted to rear wheel drive & vice versa;	✓	✓	✓
3.2	The conversions must be approved by the TC and noted in scrutineer books;	☞	☞	☞
3.3	Four-wheel drive vehicles;	✗	✗	✗
GSTC4.	<u>DIMENSIONS AND WEIGHTS</u>			
4.1	All four wheels of the vehicle to fit within the body of the vehicle, which in turn must comply with the maximum dimensions of the vehicles:	✓	✓	✓
4.2	Maximum vehicle length – 5000mm (5m)	✓	✓	✓
4.3	Maximum vehicle width – 2000mm (2m)	✓	✓	✓
4.4	Weight – The vehicle can be weighed anytime and must comply to a minimum weight of 800kg including driver, excludes weight of fire extinguishers and fuel	☞	☞	☞
4.5	No weight tolerances will be permitted;	☞	☞	☞
GSTC5.	<u>BRAKES</u>	1660 MODS	2.1 LT MODS	HOT-RODS
5.1	Brakes General:			
5.1.1	Brakes are mandatory on all four wheels;		☞	

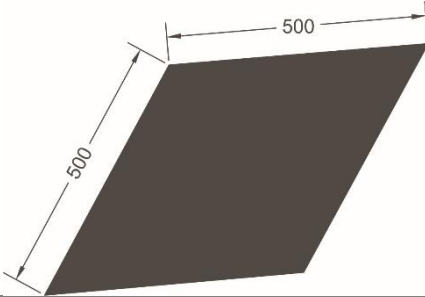
5.1.2	Brake lights are mandatory and operational always;				☞
5.1.3	Brake lights must be red and be mounted in plain sight for competitors to observe without restriction;				☞
5.1.4	Brake lights may not be fitted in the tailgate of the bodywork of the vehicle, additionally all glass or plastic indicators and lights shall be removed from the body of the vehicle;				☞
5.1.5	Brake lights to work off brake pedal operated switch;				☞
5.1.6	No ON/OFF switches permitted on brake light system;				☞
5.2	<u>Brake light specifications: -</u>				
5.2.1	Red LED - minimum 200mm length;				☞
5.2.2	Minimum of 75% of the LED's must be operational;				☞
5.2.3	Red light – round, minimum of 50mm in diameter and a maximum of 100mm;				☞
5.2.4	Rectangular or square brake lights shall be a minimum of 50mm square with a maximum of 100mm;				☞
5.2.5	Brake light appearance shall always remain bright, any dull brake light appearance may be rejected by the scrutineer;				☞
5.3	<u>Brake Mechanism: -</u>				
5.3.1	Single or twin pot brake calipers may be used on the front or rear wheels;	✓	✓	✓	
5.3.2	Brake calipers have to originate from production road going vehicles;	✓	✓	✓	
5.3.3	Only single or twin pot brake calipers may be used to replace drum brakes on the rear wheels;	✓	✓	✓	
5.3.4	ABS or any other electronic driving aids;	✗	✗	✗	
5.3.5	Brakes is open with exception of the use ABS or any other electronic driving aids;	✗	✗	✓	
5.3.6	Brake balancing, one adjustment front to back;	✓	✓	✓	
5.3.7	Brake balancing twin adjustment front to back and left to right;	✗	✗	✓	
5.3.8	All Handbrakes to be removed;	✓	✓	✓	
GSTC6	<u>BUMPERS</u>				
6.1.1	No external steel bumpers permitted, refer to internal bumper regulation;	☞	☞	☞	
6.1.2	All piping utilized for the purpose of bumpers shall remain in a single tubular form, it follows, that under no circumstances may any of these pipes be filled in any manner or have additional smaller tubing inserted to the inside of the larger pipe with	☞	☞	☞	
6.2	<u>Internal bumpers</u>				
6.2.1	Internal bumpers – piping material used shall have a maximum outside diameter of 38mm and a maximum wall thickness of 2mm	✓	✓	✓	
6.2.2	The internal bumper shall be shaped in accordance with the vehicle's silhouette no more than 6 mounting points.	☞	☞	☞	
6.2.3	Additional radiator protection may be installed internally with no more than 4 mounting points;	✓	✓	✓	
6.2.4	Vehicles that are manufactured with steel bumpers must be replaced with plastic or fibre glass bumpers, fitted with a single or double 38mm x 2mm pipe inside shaped according to the bumper; The gap between the upper and lower pipes must be a minimum of 100 mm pipe apart and may have a maximum of 3 vertical support in between the upper and lower pipe. The support pipe to be a maximum of 38mm x 2 mm.	✓	✓	✓	

6.2.5	Only plastic or fibre glass bumpers not exceeding 3mm thick may be fitted externally for cosmetic purposes only, no steel stiffeners permitted;	✓	✓	✓
6.2.6	No piping to protrude outside of bodywork;	☞	☞	☞
GSTC7	<u>STEERING AND SUSPENSION</u>			
7.1	Steering racks, steering boxes or quick ratio versions thereof, power steering from production vehicles;	✓	✓	✓
7.2	Rose joints;	✓	✓	✓
7.3	2,3,4,5,6 link rear suspensions;	✓	✓	✓
7.4	Spring adjustments;	✓	✓	✓
7.5	Freely available over the counter shocks eg., Armstrong, Monroe, Gabriel Maxtrio and JOM shall be permitted, no competition shocks – standard shocks only;	✓	✓	open
7.6	Gas shocks is permitted as per 7.5;	✓	✓	open
7.7	Competition shocks with single bump and rebound adjustment;	✗	✓	open
7.8	Suspension designs are free;	☞	☞	☞
7.9	The use of biscuit or damper (90-10) shock;	✗	✓	✓
7.10	Clip-on steering wheels is permitted (no homemade clip-on device)	✓	✓	✓
GSTC8	<u>EXHAUSTS:</u>			
8.1.1	Exhausts and silencer boxes mandatory and must comply to prescribed noise levels; Maximum decibels 108, measured 1metre away at 5000rpm;		☞	
8.1.2	Branches;	✓	✓	✓
8.2	<u>Exhaust Fitment</u>			
8.2.1	Exhaust outlet must face downwards underneath the vehicle;		☞	
8.2.2	All piping shall be secured with saddles, preventing exhaust pipes from coming free in the event of it breaking off;		☞	
8.2.3	Exhausts fitted below the floor pan shall have saddles fitted at +- 33% and 66% of the exhaust length to retain the exhaust in the event of exhaust breaking.		☞	
8.2.4	Saddles are to be bolt on type;		☞	
8.2.5	Exhaust systems installed above the floor pan with tailpipes passing out through the side of the vehicle, shall do so at a maximum height of 450mm measured from the ground to the top of the pipe with the vehicle parked on a level floor, with driver seated and tyres measured at racing pressures;		☞	
8.2.6	Exhaust systems installed above the floor pan may not protrude more than 50mm beyond the body silhouette;		☞	
8.2.7	A suitable metal plate mounted away from the exhaust in order that it acts, as an effective heat shield shall cover the pipe inside the driver's compartment.		☞	
GSTC9	<u>FLYWHEELS</u>	1660 MODS	2.1 LT MODS	HOT-RODS
9.1	Cast steel/iron, aluminum and metal fly wheels;	✓	✓	✓
9.2	It is highly recommended that the use of steel or aluminum fly wheels are used;	☞	☞	☞

9.3	When lightening fly wheels, keep the lightening limited for safety purposes;	☞	☞	☞
9.4	Beams engine flywheel, mass flywheel may be changed to the solid flywheel as long as it originates from the same engine	-	✓	✓
GSTC10	<u>FUEL</u>			
10.1	Fuel open, unless specified under class regulation;	✓	✓	✓
10.2	Performance enhancing additives;	✓	✓	✓
10.3	Methanol lubricants;	✓	✓	✓
10.4	Only normal service station pump fuel 95 octane and lower is permitted on 2.1 multi valve units		☞	
GSTC11	<u>FUEL MANAGEMENT AND CARBURETION:</u>			
11.1	Aftermarket Fuel and ignition management system;	✓	✓	✓
11.2	Production car throttle bodies, maximum inside diameter per cylinder (measured in mm);	✗	45max	open
11.3	Single Throttle Body (measured in mm) (original on 2.1L multi valve units);	58max	65max	open
11.4	Restrictor plate after throttle body on 2.1 multi valve units only	✗	TBA	✗
11.5	Jets and injectors sizes Open (Not on 2.1L multi valve units);	✓	✓	✓
11.6	Side draughts permitted;	40max	48max	open
11.7	Choke tubes; It shall not exceed as stipulated if measured at any point across diameter;	36max	open	open
11.8	Ram Tubes;	✓	✓	✓
11.9	Slide Throttle Bodies;	✗	✗	✗
11.10	Mechanical and Electrical Fuel Injections;	✓	✓	✓
11.11	Fuel pressure regulator;	✓	✓	✓
11.12	Two parallel springs on carburetor or throttle unless it has two original springs as original design;	☞	☞	☞
GSTC12	<u>ENGINE</u>			
12.1	General			
12.1.1	Engine may be solid mounted;	✓	✓	✓
12.1.2	Air Cleaners and air boxes are open;	✓	✓	✓
12.1.3	Removal of alternators or charging system;	✓	✓	✓
12.1.4	Intake manifold modifications permitted excluding 2.1L multi valve units;	✓	☞	✓
12.1.5	Head modifications permitted but must be of same manufacture as engine excluding 2.1L multi valve units;	✓	☞	✓
12.1.6	Camshaft modification permitted, excluding 2.1L multi valve units;	✓	☞	✓
12.1.7	Dry Sump permitted, excluding 2.1L multi valve units;	✓	☞	✓
12.1.8	Aftermarket pistons and rods permitted, excluding 2.1L multi valve units;	✓	☞	✓
12.1.9	Compression ratio modification permitted, excluding 2.1L multi valve units;	✓	☞	✓
12.1.10	Turbo\supercharger;	✗	✗	✓
12.1.11	Motorcycle engines;	✗	✗	✗
12.1.12	Balancing of engine;	✓	✓	✓
12.1.13	Any lubricant is permitted.	✓	✓	✓
1660 MODIFIED SALOONS				
12.2	<u>ENGINE:</u>			
12.2.1	Engines, blocks and cylinder head utilized will only be permitted, if more than 500 units were sold of the vehicle from which it originated in South Africa; Engines, blocks and cylinder head utilized will only be permitted if more than 5000 units were sold in the world from which it originated;			

12.2.2	The use of the Nissan A15 engine is specifically permitted, subject to all other limitations;
12.2.3	The use of an engine originating from another model, manufactured by the same manufacturer or the use of an engine from another manufacturer shall be permitted, provided that that engine complies with the criteria as set out above, e.g. (Nissan 1200 can be replaced with a Nissan 1500 or a Nissan engine may be replaced with a Ford engine.);
12.2.4	The engine shall have no more than 4 cylinders
12.2.5	1450CC – 16Valve permitted – no tolerance
12.2.6	1550cc – 12 valve permitted – no tolerance
12.2.7	1660cc – 8 valve permitted – no tolerance
2.1 LT MODIFIED SALOONS	
12.3	ENGINE:
12.3.1	Engines, blocks and cylinder heads utilized will only be permitted, if more than 5000 units were sold worldwide;
	8 VALVE UNITS
12.3.2	Three or four cylinder 4 stroke piston driven engine, overhead valve or overhead cam permitted;
12.3.3	Maximum volume 2100cc, with no tolerance;
12.3.4	No aftermarket Throttle bodies permitted, they must originate from a production road going vehicle;
	16 VALVE UNITS:
12.3.5	Limited to a maximum of 2000cc
12.3.6	Standard bore plus 60thouh oversize for multi valve units;
12.3.7	No Methanol fuel permitted in the Multi Valve units;
12.3.8	Only original camshafts and fuel injectors permitted.
12.3.9	Pulleys can be replaced by steel or aluminum.
12.3.10	Competition\performance crankshaft, piston, conrods not permitted.
12.3.11	No Honda engines allowed.
12.3.12	The VVL SR20V up graded motor not permitted, no N1 cams permitted in the VVL engines;
12.3.13	VVL SR20V intake manifold maybe altered to accommodate frame construction, but throttle body to remain standard;
12.3.14	Aftermarket or self-manufactured timing chain tensioners allowed
HOTRODS	
12.4	ENGINE:
	8 Valve units
12.4.1	Limited to a maximum of 2750cc, no tolerance;
	8 VALVE WITH TURBO\SUPERCHARGER:
12.4.2	Limited to 2200cc, plus 60 thou oversize;
	MULTI VALVE UNITS:
12.4.3	Limited to a maximum of 2450cc no tolerance;
	MULTI VALVE UNITS WITH TURBO\SUPERCHARGER:
12.4.4	Limited to a maximum of 2000cc
12.4.5	Standard bore plus 60thouh oversize for multivalve engines of 12valve, 16valve and 20 valve;
	ROTARY UNITS AND ROTARY TURBO\SUPERCHARGER UNITS:
12.4.6	Limited to twin rotor engines, without turbo, any porting;
12.4.7	Rotary Turbo/Supercharger unit, maximum bridge port allowed;
12.4.8	Carburetion is open;
12.4.9	Fuel injection is open except no slide type throttles are permitted;
12.4.10	All rotors shall be of ferrous metal – no aluminum/titanium permitted;
12.4.11	Roller bearing on eccentric shafts not permitted;
12.4.12	Aftermarket intake and throttle bodies permitted;

12.4.13	Turbo is limited too maximum T4;			
GSTC13	<u>TRANSMISSION</u>			
13.1	Differentials utilized will only be permitted if more than 5000 units were sold worldwide	☞	☞	☞
13.2	Gear ratios;	open	open	open
13.3	Diff ratios;	open	open	open
13.4	Only standard differentials and gearboxes;	✓	✓	✓
13.4.1	Aftermarket gearsets;	✗	✓	✓
13.5	Sequential gearboxes;	✗	✗	✗
13.6	Locked differentials;	✓	✓	✓
13.7	Limited slip differential;	✗	✓	✓
13.8	Clutches Open	✓	✓	✓
GSTC14	<u>WHEELS AND TYRES</u>			
14.1	Double wheels;	✗	✗	✗
14.2	Normal, road legal tyres new or re-tread;	✓	✓	✓
14.3	Tyres must be freely available from any tyre dealer;	✓	✓	✓
14.4	Tyres may not bare the inscription “not for highway use, for racing purposes only”;		☞	
14.5	Tyre identification – under no circumstances may the tyre manufacturer’s original extruded side wall markings, indicating manufacturer’s details, size, profile, country of origin, ratings, serial numbers and batch codes be removed or altered;		☞	
14.6	Rally tyres;	✗	✓	✓
14.7	No purpose built or manufactured race tyres are permitted	☞	☞	☞
14.8	The regulation of purpose built or manufacturing of tyre shall include NO grooving;	☞	☞	☞
14.9	Tyres - maximum width of 205 are permitted; with a maximum diameter	15”	16”	16”
	Rims	8J	10J	10J
14.10	No plastic rims permitted;	✗	✗	✗
14.11	Rims Sizes	13-15”	13-16”	13-16”
14.12	Bead Locks – number per vehicle per rim and/or “Free shall mean one per rim”	2	Free	Free
14.13	Bead protectors permitted on all wheels	✓	✓	✓
14.14	Tyres/wheels may not protrude beyond the wheel arches or bodywork in saloon classes;		☞	
14.15	All wheel studs, nuts and bolts are to be fitted and in place;		☞	
14.16	The Beadlocks must have a smooth face with no sharp edges or studs that protrude beyond the face of the beadlocks.		☞	
14.17	Only open-ended nuts may be used;		☞	
14.18	In all instances the stud must protrude the nut;		☞	
14.19	Wheel bolts eg., like most German vehicles, the bolt must fasten at least by the diameter of the bolt in depth;		☞	
14.20	All tyres must be presented at scrutineering;		☞	
GSTC15	<u>WINGS:</u>			
15.1	Wings - optional;	✓	✓	✓
15.2	Wings may not exceed the body width	✓	✓	✓

15.3	Rear wing hang over may not exceed a maximum 300 mm past the rear of the vehicle.	✘	✓	✓
15.4	Wing end plates to be a maximum of 500mm x 500mm; with a tolerance of 50mm.			
15.5	Vertical plates permitted shall not exceed 4 x vertical plates;	✓	✓	✓
15.6	Van size and choice shall be a maximum of two, the accumulative van length shall not exceed the length of 600mm measured together	✓	✓	✓
15.7	The first horizontal vane cannot exceed 500mm in length;	✓	✓	✓
15.8	The second vane may not exceed 100mm in length and may be adjustable;	✓	✓	✓
15.9	Wing to be mounted from "B" pillar backwards;	✓	✓	✓
15.10	Height of wing should be no higher than 300mm from the highest point of the roof to the highest part of the vane;	✓	✓	✓

QUICK INDEX 1660 MODIFIED SALOONS

<u>1660 MODS GUIDELINES</u>			
		Fuel pressure regulator	✓
Aftermarket ignition systems	✓	Homemade Steering mechanism	✘
Air boxes.	✓	Independent rear suspension	✓
Altered camshaft drive	✘	Induction and ram tubes.	✓
Altered rocker ratios not permitted	✘	Limited slip diff.	✘
Removal of alternators or charging system is permitted	✓	Single shock per wheel, maximum 4shocks per vehicle	✓
Aluminum fly wheel	✓	Mechanical and electrical fuel injection.	✓
Any bore and stroke ratio (1660cc maximum)	✓	Modified Tappet covers	✓
Any compression ratio	✓	No aftermarket roller rockers	✓
Branches	✓	Pressure plate ANY (eg Tilton)	✓
Camshaft profiling	✓	Pulley sizes/ratio	✓
Clutch Plate – Button clutch plates	✓	Single or twin pot per wheel maximum 4 calipers per vehicle	✓
Competition Valves	✓	Locked diff.	✓
Competition/performance Conrods	✓	Station wagon, panel vans and LDV	✓
Competition/performance Crankshaft	✓	sump volume and design	✓
Competition/performance piston and rings	✓	Throttle bodies	✘
Electric fuel pump	✓	Vernier pulleys allowed	✓
Electric water pump	✓	Weber and Dell'orto carb parts interchangeable	✓
Forced induction (turbo - supercharger)	✘	Wings not to be adjusted while driving, can be adjusted in pits	✓
Front or rear wheel drive space frame.	✓	Wish bone suspension front	✓

QUICK INDEX 2.1 LT MODIFIED SALOONS

<u>2.1 LT MODS GUIDELINES</u>			
		Fuel pressure regulator	✓
Aftermarket ignition systems	✓	Homemade Steering mechanism	✘
Air boxes.	✓	Independent rear suspension	✓

Altered camshaft drive	✗	Induction and ram tubes.	✓
Altered rocker ratios not permitted	✗	Limited slip diff.	✓
Removal of alternators or charging system is permitted	✓	Single shock per wheel, maximum 4shocks per vehicle	✓
Aluminum fly wheel	✓	Mechanical and electrical fuel injection.	✓
Any bore and stroke ratio on 8 valve unit (2100cc maximum)	✓	Single or twin pot per wheel maximum 4 calipers per vehicle	✓
Any compression ratio (On 8 valve units)	✓	Modified Tappet covers	✓
Branches	✓	Pressure plate ANY (eg Tilton)	✓
Camshaft profiling (On 8 valve units)	✓	Pulley sizes/ratio	✓
Clutch Plate – Button clutch plates	✓	No aftermarket roller rockers	✓
Competition Valves (On 8 valve units)	✓	Locked diff.	✓
Competition/performance Conrods (On 8 valve units)	✓	Competition/performance piston and rings (On 8 valve units)	✓
Competition/performance Crankshaft (On 8 valve units)	✓	Wings not to be adjusted while driving, can be adjusted in pits	✓
Front and rear wheel drive space frame	✓	Throttle bodies (On 8 valve units)	✓
Electric fuel pump	✓	sump volume and design	✓
Electric water pump	✓		
Forced induction (turbo - supercharger)	✗	Wish bone suspension front	✓

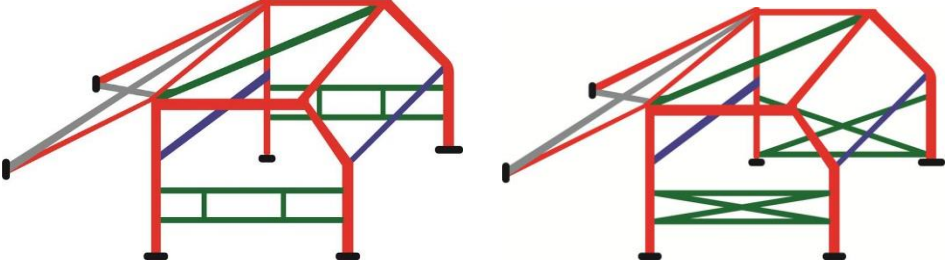
TECHNICAL CONSTRUCTION SALOONS REGULATIONS

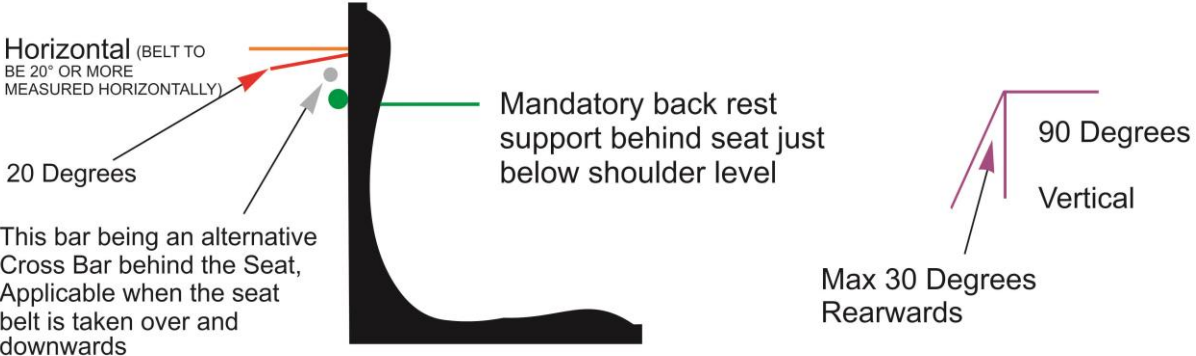
TCS 1.	<u>PROTECTIVE CLOTHING</u>
1.1	Full fire-retardant race overalls are compulsory.
1.2	Minimum requirement is a Level 1, single layer race suit;
1.3	The composition of the suit even if small percentages are used may not be of a polyester, nylon or synthetic material;
1.4	Mechanic overalls will not be permitted;
1.5	Two-piece race suites not permissible;
1.6	No pushing up of sleeves permissible whilst racing;
1.7	Fire retardant gloves are compulsory;
1.8	Open fingertip gloves are not permitted;
1.9	It is mandatory for Competitors racing with methanol to wear balaclavas;
1.10	Neck braces/donut type shall be mandatory for all competitors;
1.11	All helmets will be in a good condition; it will be highly recommended that full face helmets are used for Oval Track Racing;
1.12	The only helmet that will be approved must bear the SABS or of a higher standard and a type that is suitable for highway usage;
1.13	The Scrutineer may condemn a helmet or confiscate a helmet until after a race meeting, if, the visor is cracked, the helmet has a visible crack and if the helmet straps are in any way sub-standard;
1.14	<u>Recommended washing instructions of race suites:</u> No Bleaches, No fabric softeners, no machine washing, no tumble drying, no ironing – hand wash only and drip dried – this method preserves the agents within the fabric.
TCS2.	<u>SAFETY REGULATIONS</u>

2.1	All sump, gearbox and differential drain and filler plugs have to be drilled and wired;
2.2	Oil filters have to be clamped or strapped;
2.3	A radiator water catch tank of a minimum capacity of 1 litres shall be fitted to the cooling system;
2.4	A sealed radiator system will be exempted from the above regulation, for example Golf systems;
2.5	All joints and seams in the construction of the vehicle shall be properly mitered and be welded;
2.6	Methanol – it shall be mandatory that all methanol storage containers (Jerry can) be marked by a spray of paint or sticker, the letter M or in full Methanol, the colour to be used shall be red or orange;
2.7	All flammable items such as dashboards, plastics, carpets, upholstery and hood lining must be removed;
2.8	All bitumen cladding on the interior of the vehicle has to be removed;
2.9	All lights and windows must be removed from the vehicle, only the rear side windows may be replaced with clear lexan;
2.10	Under no circumstances may a vehicle compete without a secured bonnet, the purpose of this is to prevent the bonnet dislodging and secondly preventing, burns of any nature towards a competitor;
2.11	Bonnets shall be constructed and fit in such a manner that no open gaps will display when closed;
2.12	All piping (brakes and fuel) and wiring must be installed above the floor board or chassis;
2.13	Vehicles shall be able to self-start and self-starters have to be in a working condition;
TCS3.	<u>BATTERIES</u>
3.1	It shall be mandatory for batteries to be bolted down;
3.2	Battery shall be bolted down by way of a cross bar or cross bracket;
3.3	Cross bar to be made of a flat bar with a minimum 5mm thickness; or
3.4	Square bar of 8mm x 8mm or round bar of a minimum 8mm in diameter;
3.5	The hold down bolts shall be a minimum of 8mm in diameter;
3.6	No side clamps or straps will be permitted to hold down the battery;
3.7	Batteries shall be covered by a nonconductive material to prevent short circuiting in the case of an accident;
3.8	Batteries fitted in the competitor's compartment shall be mounted in a leak proof compartment, eg., boat battery box;
3.9	The use of battery box compartment shall still require the battery to be bolted down inside the box, in all instances the cover of the battery box must be secured, by way strapping;
3.10	Batteries may be kept in their original positions and be affixed correctly;
3.11	In all instances batteries should be easily accessible for scrutineers to inspect;
TCS4.	<u>COMPETITION NUMBERS ON VEHICLES DISPLAYS</u>
4.1	Optional number placing on Wing Plates: -
4.2	Wing Plates – White Back, black number or Black back with mandatory white or Day Glo colour only -
4.3	Minimum size, 300mm height with a 50mm font stroke;
4.4	No other stickers or advertising permitted on wing plate;
4.5	The number shall be displayed on the wing or the "C" Pillar or on the front door.
4.6	Competition number to be displayed on the Roof of the vehicle, showing towards the outer side of track;
4.7	Competition numbers to be a minimum size of 300mm in height with a readable 50mm Font stroke;
4.8	Competition prefix to be a minimum size of 120mm in height.
4.9	Competition numbers to be contrast to the colour of the vehicle;
4.10	Competition number and competitor's name to be displayed on the visor – visor height is generally 120mm in height;
4.11	<u>General Graphics and/or Sign writing on vehicles: -</u>
4.11.1	Only vinyl lettering or professional sign writing applications will be permitted;
4.11.2	Club Prefixes are mandatory to be displayed together with the number;
4.11.3	Advertisements/sponsors must not scramble the number of the vehicle;
4.11.4	Advertisements and slogans may not be of discriminatory manner;
4.11.5	Numbers 1, 2 and 3 will be reserved for WOMZA Final Championships only;
4.11.6	No longer may clubs use 1,2 or 3 for Club Champions or zero numbers;

<p>4.11.7</p> <p>4.11.8</p> <p>4.11.9</p> <p>4.11.10</p>	<p>Only, rear side windows (which are to be replaced with clear lexan or polycarbonate) may be sign written, no more than 50% of the window may be covered with sign writing;</p> <p>No lights (LED) are permitted on the outside on the frame including wings.</p> <p>No lights (LED) are permitted inside cockpit.</p> <p>Lights (LED) are permitted on wheels and underneath of car.</p>
<p>TCS5.</p> <p>5.1</p> <p>5.2</p> <p>5.3</p> <p>5.4</p> <p>5.5</p> <p>5.6</p> <p>5.7</p>	<p><u>ENGINE POSITIONS:</u></p> <p>Rear mounted engine vehicles must be mounted behind the rear wheels, saloons class only, the positions of the engines may not be altered in any manner and must be retained in the original manufactured fitted position;</p> <p>No midmount engines permitted in saloon classes;</p> <p>The rear face of the engine is where the bell housing and the engine meet;</p> <p>Measurements applicable to engine positions of front mounted engines, in rear wheel drive vehicles;</p> <p>The back face of the engine will not be more than 600mm backwards from a line drawn across the centres of the two front wheels which will be determined by means of a plumb line using the method described as in the drawing;</p> <p>The engine may not be fitted with a offset of more than 50mm from the centre line of the vehicle;</p> <p>The vehicle must be built symmetrically when viewed/measured from the front or rear;</p>
<p>TCS6.</p> <p>6.1</p> <p>6.2</p> <p>6.3</p> <p>6.4</p> <p>6.5</p> <p>6.6</p> <p>6.7</p> <p>6.8</p> <p>6.9</p> <p>6.10</p> <p>6.11</p> <p>6.12</p> <p>6.13</p>	<p><u>FUEL TANKS AND FUEL PIPES:</u></p> <p>Vehicle may not retain the original position of their fuel tanks, shall be removed from the original position;</p> <p>It is highly recommended that properly designed and manufactured racing fuel tanks are used or bag type fuel cells which reduces the risk of fuel spillage from accident damage;</p> <p>The wall thickness of metal fuel tanks shall be no less than 1mm;</p> <p>A fuel tank breather, which shall vent externally, must be fitted to all fuel tanks.</p> <p>A non-return valve shall be fitted to the breather.;</p> <p>The non-return valve may not be airtight;</p> <p>The fuel tank cap shall be the non-vented type;</p> <p>The fuel tank shall be mounted in the boot-space of the car behind the fire wall;</p> <p>Fuel tanks must be mounted in a separate compartment to the competitor;</p> <p>Fuel tanks must be securely mounted to the boot floor or the chassis of the vehicle with bolts or metal straps;</p> <p>A fire wall must be constructed to separate the competitor from the fuel tank and fuel pumps as well as the filler and breather system;</p> <p>The fuel lines must run above the floor;</p> <p>The section of the fuel line running inside the vehicle past the competitor compartment must be of a steel material and may not have joints</p>
<p>TCS 7.</p> <p>7.1</p> <p>7.2</p> <p>7.3</p> <p>7.4</p> <p>7.5</p> <p>7.6</p>	<p><u>KILL SWITCH</u></p> <p>Vehicles shall have kill switches made of non-flammable material fitted;</p> <p>Kill switches to be marked red;</p> <p>The fitment of the kill switch fitted shall be within the competitors reach and his sight when strapped in;</p> <p>External switch shall be situated outside of the vehicle for Officials to easily reach;</p> <p>If the internal kill switch cannot be reach by an official easily, it shall be mandatory for an additional external kill switch to be fitted;</p> <p>The effect of the Kill switch/es is to isolate the battery power from the rest of the vehicle and to shut the engine off with immediate effect, resulting in the break of the ignition and electric fuel pump circuits, simply said to cut all power and fuel supply simultaneously;</p>

TCS8	<u>MIRRORS</u>
8.1	Only one mirror mounted on the inside of vehicle permitted;
8.2	Maximum size of mirrors 100mm x 200mm;
8.3	One Exterior mirror permitted;
8.4	Exterior to be fitted within the width of car on the competitor driving side;
8.5	Maximum size of exterior mirror 150mm in diameter, width and/or height;
TCS9	<u>MUDFLAPS</u>
9.1	Mandatory on vehicle
9.2	Mud flaps to be fitted behind the rear wheels of rear wheel drive cars;
9.3	Mud flaps to be fitted behind the rear wheels and behind the front wheels of front wheel drive vehicles;
9.4	Mud flaps must be positioned directly behind the wheels and not more than 100mm from the back face of the wheels;
9.5	Distance of mud flap from ground level with driver seated, measured from the bottom of the mud flap to ground level is maximum 100mm and minimum 50mm, with the competitor seated and wheels inflated to racing pressures;
9.6	Mud flaps to cover the full width of the tyre and must be fitted as close to the tyre as possible;
9.7	Mud flaps not to drag on the ground;
9.8	Mud flaps must be made up of a firm but flexible material, metal material may not be used;
9.9	Mud flaps may under no circumstance be manufactured from rubber car mats
9.10	Mudflaps should be fitted in such a manner that it forms part of the body;
9.11	Mudflaps may not be part of or be fitted to bumpers;
TCS10.	<u>OIL SAFETY CONTROL</u>
10.1	Oil filters are either to be clamped or strapped;
10.2	Sump, gearbox, axle's drain and filler plugs are to be drilled and wired;
10.3	An oil catch tank, with a minimum capacity of 1 litres, capable of accepting surplus oil and fumes from the engine shall be fitted; (ENGINE BAY OR CAN IT BE FITTED INSIDE CAR)
10.4	The catch tank shall be connected to each breather outlet by means of a flexible pipe or similar conveyance, designed to feed the oil or fumes to the tank;
10.5	The catch tank is to be emptied between races;
TCS11.	<u>PROP SHAFT/DRIVE SHAFT/RUNNING GEAR PROTECTION</u>
11.1	<u>General Prop shaft protection hoops:</u>
11.1.1	Drivers must be protected from open running prop shafts by two steel bands, with a minimum width of 50 mm;
11.1.2	These bands shall at least be 5mm thick and be bolted or welded to the chassis;
11.1.3	These bands are to prevent a broken shaft from lifting and coming into the cockpit area;
11.1.4	The one band shall be a maximum of 150 mm behind the front yoke measured from the front of the prop shaft;
11.2	<u>Prop shafts running below chassis:</u>
11.2.1	Vehicle shall have a collar/hoop that would prevent the front end of the running gear (prop shaft or torque tube) to lodge into the track should it break while the vehicle is in motion;
11.2.2	The hoop should be approximately 25% along the distance of the shaft as measured from the front of the prop shaft;
TCS12.	<u>RADIATOR SAFETY CONTROL</u>
12.1	Any radiator is permitted
12.2	Any coolant is permitted
12.3	A water catch tank with a minimum capacity of 1litres shall be fitted to the cooling system, exempted will be sealed water systems;
12.4	Under no circumstances may a water catch container be replaced with a pipe allowing steam or water (overheating) being directed outwards;
12.5	All joints that are not flared shall be double clamped, flared pipes may have one clamp only;

12.6	All piping to and from the radiator, other than the joints and the overflow pipes shall be of steel or aluminum or copper;
12.7	All piping to and from the radiator, other than the joints and the overflow pipes shall be of steel;
12.8	The pipes must be mounted securely between the firewall and the radiator and at a height not higher the sissy bar;
12.9	All joints are to be enclosed by a rubber sock and all hoses are to be double clamped;
12.10	Radiator shield protectors are mandatory with the following regulations applicable;
12.11	A fitment of a shield in lexan or Perspex shall be fitted to protect the competitor from a burst water pipe;
12.12	The shield could be made up in two designs namely:
12.13	A straight up shield covering and protecting the competitor in full whilst seated, this to be the full range of the radiator and competitor;
12.14	An upright shield with a hood covering the top of the radiator to form an airflow tunnel so not to restrict air intake, being the full width of the radiator, protecting the competitor whilst seated;
TCS13.	<u>SAFETY/ROLL CAGES</u>
13.1	The safety cage know as a roll cage is a structural framework designed to prevent serious bodysell deformation and bodily harm in the case of collision or a car turning over;
13.2	It is compulsory for all vehicles to have a fully constructed roll cages;
13.3	Great care must be taken that roll cages are constructed in the fashion, that in an event of an accident, no metal piping could break off causing bodily harm. The roll cage has to be designed so to protect the competitor;
	
13.4	The example shall be a <u>mandatory minimum</u> requirement;
13.5	The cross bar behind the driver seat (blue) shall be mounted flush directly behind the backrest of the seat in order to support the backrest. This cross bar shall be just below the shoulder of the driver when seated;
13.6	Additional cross bars may be added to the cage;
13.7	Where the roll cage has lost strength due to bends, triangulated bracing to reinforce the cage would be necessary;
13.8	All welding points to be welded 100% and the less accessible areas no less than 75%;
13.9	Round tubing shall have a minimum outside diameter of 38mm and a minimum wall thickness of 2mm;
13.10	A maximum of two 8mm inspection holes on the left hand and right-hand side of the cage shall be made for easy inspection;
13.11	The cage shall be fitted with a base plate, welded, or bolted on to the floor, sill, or wheel arch of the vehicle if the original body of a standard vehicle is utilized. The cage of a purpose-built chassis shall for man integral part of the chassis itself and shall accordingly be welded directly onto the chassis legs.
13.12	A minimum size of base plate 60x60x4mm thick.
13.13	Where the driver's helmets could meet the safety cage, a non-flammable padding should be provided for protection;
13.14	Sissy bars shall be fitted in such a manner that the competitor's hips and knees are completely protected when he/she is strapped into the seat. The sissy bars should be constructed in such a manner that in an event of a T-bone incident the other vehicle would collide with the sissy bar;
TCS14.	<u>SEATS - Race Seats</u>
14.1	Race seat minimum specifications for oval track racing: Race seat shall have holes where seat belts can be

<p>14.2 14.3 14.3 14.4 14.5 14.6 14.7 14.8 14.9 14.10 14.11 14.12 14.13 14.14</p>	<p>let through, one on each side of the seat for lap belts and two on the back rest at shoulder height for the belts to exit to its mounting points; It is highly recommended to fit a FIA approved seat; Only bucket race seats permitted, no adjustable back rest reclining road car or race styled seats will be permitted; No fibre glass seats may be used; Seat are to be mounted against support bar across just below shoulder level. Aluminum seat permitted; Aluminum seat wall thickness – minimum of 2.5mm; Steel seat permitted; Steel seat wall thickness, minimum of 2.00mm; Steel framed seats permitted; Carbon fibre seat is permitted Carbon fibre seat wall thickness, minimum of 3.00mm Carbon fibre seat are to be mounted with a support bar across the back with tear plates of 100 mm x 100mm, behind the backrest of the seat, just below shoulder height; Vehicle that have cracked/torn and broken seats shall automatically be excluded from the event, without any further negotiations; Race seat need to be bolted with four 8mm(minimum) bolts at bottom of race seat or with two 8mm(minimum) of the center of seat. The Seat backrest also need to be bolted to the support bar with two 8mm(minimum) bolts. 8mm U bolt may be used.</p>
<p>TCS15. 15.1 15.2 15.3 15.4 15.5</p>	<p><u>SEAT BELTS</u> Quick release seat belt and shoulder harness are mandatory; Seat belts must have a minimum of four points; No hand stitching or homemade alterations permitted to belts; Only SABS or International standard belts permitted; Safety belts and driver seats must be secured to the roll cage or frame (not to the floor pan);</p>
<p>15.6 15.6.1 15.6.2 15.6.3 15.6.4 15.6.5</p>	<p><u>Fitment of Seat Belts:</u> The shoulder belt will exit through the backrest of the seat horizontally to the rear mounting point with a minimum of 20degree (measure from horizontal) downwards to the exit point The lap belts will exit through the side hole fitment of the seat, and form a vertical line to the mounting points with a maximum of 30degrees rearward; The crotch belt application – it shall exit though the seat downward vertical viewed from the side with a maximum of 20degree rearward towards the mounting points; If the fitment of the shoulder belt cannot fit as above, the fitment of the shoulder belt may be taken down to the chassis, but must be supported with a crossbar behind the back rest of the seat at the same height of the seat belt exit holes for the crossbar to function as a support for the belt going down for the bar to take the downward pressure of the shoulder belt and not the seat back rest; Existing vehicles that have seat belts and seats mounted to the floor pan must be supported by 50mm x 50mm washers or 75mm x 2mm in diameter tear plate; See drawing for belt installation;</p>  <p>Horizontal (BELT TO BE 20° OR MORE MEASURED HORIZONTALLY) 20 Degrees Mandatory back rest support behind seat just below shoulder level 90 Degrees Vertical Max 30 Degrees Rearwards This bar being an alternative Cross Bar behind the Seat, Applicable when the seat belt is taken over and downwards</p>

<p>TCS16. 16.1 16.1.1 16.2 16.2.1 16.2.2 16.2.3 16.3.1 16.3.2 16.3.3 16.3.4 16.4.1 16.4.2</p>	<p><u>SPACE FRAME / PURPOSE BUILT / SEMI-SPACE VEHICLES</u> <u>Space Frame Vehicle definition:</u> A space frame vehicle is a tubular frame constructed of square or round tubing to form the chassis and roll cage as a unit and has a detachable body shell. The body work must be detachable;</p> <p>Space framed vehicles under construction – Once the competitor has completed the frame prior to them fitting the body panels, they are obliged to contact the vehicle construction safety team (these appointments have been made at each club) in order for them to inspect the carcass framework. The inspection in particular will include the checking of the welding, roll cage, suspension and various mounting points; The team will similarly note in the scrutiny book of the competitor that the vehicle had been inspected and has safely been passed.</p> <p>Purpose built and Space framed vehicles – competitor entry and exit into the driver cockpit; It shall be mandatory for all competitors to gain access through the “driver door” side; Should the height of the door impair access it shall not be cut away but shall have a hinge arrangement whereby it folds, at or near the top sissy bar; Doors may be made fully removable, provided they are securely fitted during races. The securing pins shall be removable from the outside;</p> <p>All semi-space frame, space-frame or purpose built vehicles shall have a reinforced floor area for the driver’s seat and feet; No alterations to the roof standard car bodies permitted;</p>
<p>TCS17 17.1 17.2 17.3</p>	<p><u>TOW HOOKS</u> Vehicle are to install tow hooks to the front and back of the vehicle; These may not protrude beyond the bumpers of the vehicle; It should be clearly marked in red, yellow or orange for tow-vehicle crew to tow the vehicle with the least delay;</p>
<p>TCS18. 18.1 18.2 18.3 18.4 18.5 18.6 18.7 18.8</p>	<p><u>WEIGHTS</u> Vehicle which require to increase vehicle weights shall do so by fitting ballasts: Ballasts, is a non-functional material added to increase vehicle weight. Any ballast must be permanently fixed to the structure of the vehicle by means of bolting, wiring and strapping of ballasts is prohibited; All ballast must be clearly marked by a contrasting colour to the interior of the vehicle; Championship events – once vehicles have been weighed the Scrutineer shall have the right to wax seal ballasts; Fitted fire-extinguishers shall be removed or it’s weight reading shall be taken into consideration and be excluded for weighing purpose; No weight tolerances will be permitted; A vehicle may be weighed at any time during the event and remains the responsibility of the competitor to ensure the vehicle in which he is competing complies to the class weight regulation;</p>
<p>TCS19 19.1 19.2</p>	<p><u>WELDING</u> All joints and seams in the construction of the vehicle are to be properly mitered and shall be welded. All visible welding shall be 100%.</p>
<p>TCS20. 20.1 20.2 20.3 20.3 20.4</p>	<p><u>WHEEL AND BODY PROTECTOR</u> Wheel and body sill protectors are fitted between the front and the rear wheels at sill height and may be fitted to all saloon vehicle classes, with the exception of the 1600 Standard Saloons; The wheel and body protector must be straight and only curve inwards at each end once mounted; The material used shall not exceed 2mm thickness. The protector may not protrude more than 80mm beyond the wheel and must be flush with the bodywork; No sharp edges or open round piping permitted, as these shall be rounded back to the chassis or mounting points;</p> <p><u>Fender flairs</u></p>

20.4.1	The use of fender flairs is permitted
20.4.2	Fender flairs constructed from fiber glass max 3mm in thickness, may not have any additional steel reinforcements.
20.4.3	Fender flairs constructed from sheet metal may not exceed 1.2mm in thickness, may not have any sharp edges and must be shaped to fit according to the fenders shape.
TCS21.	<u>WINDSCREENS AND GLASS WINDOWS</u>
21.1	All windscreens and glass windows shall be removed if vehicle is being campaigned permanently on dirt;
21.2	Only the rear side windows may be replaced with lexan or polycarbonate;