WORLD OF MOTORSPORT ZA

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2018

2L HOTROD (HP) TAR

The rule of what is not specifically allowed is not permitted, refer to WOMZA Tar Oval Committee/Technical Consultants for further clarity on the matter.

Introduction:

Competitor age restriction: Competitors may join this class in the Year they turn 16. Competitors may join this class in the Year they turn 15 with previous experience subject to a three event trial period.

2.0 Litre Ford Pinto SOHC/ Nissan 2.0L 16V VVL engines are used with standard bodies, semi space frames and fully space frames may be used

HP 1	**Eligibility of vehicle and bodies**
1.1	Any saloon, GT or Coupe type car or body replicated, semi or full space framed version may be used, with the exception of LDV's, station wagons and panel vans are prohibited;
1.2	Only rear wheel drive vehicles are permitted;
1.3	Any drive train, cooling, axle or brake component may be used provided the donor vehicle complies with the type of car or body;
1.4	Only Ford 2.0 Litre Pinto SOHC engines is permitted;
1.5	Only unmodified Ford gearboxes may be utilized;
1.6	Any reference to standard parts in respect of the engine shall refer to Ford production parts or accepted commercial aftermarket parts specifically for Ford 2.0 Pinto SOHV engines;
1.7	No competition parts or parts from another engine will be permitted;
1.8	Measurements shall be done so in respect of standard parts or aftermarket parts specifically for the Ford 2.0 Litre Pinto SOHC engine;
HP 2.	**General Safety**
2.1	All other items not noted under the class regulations, shall be adhered to under race regulations and technical & construction regulations;
HP 3.	**Construction and Roll Cage**
3.1	Refer to T & C Regulations;
HP 4.	**Bumpers:**
	Refer to T & C Regulations;
HP 5.	**Brakes**
5.1	Only brake components as fitted to any vehicle as per item 1, may be used;
5.2	Master cylinders are free;
5.3	Aftermarket pedal boxes may be used;

HP 6.	**Dimension and Weights**
6.1	Minimum weight of the car including competitor 800kg weighed pre, during or post event with no tolerance permitted;
6.2	Wheelbase of the vehicle must be within 50mm of the original manufacturers prescribed specifications;
6.3	Maximum length and width of the vehicle shall include the wing and aerofoil;
6.4	Maximum length of the vehicle is 5000mm;
6.5	Maximum width of the vehicle is 2000mm;
HP 7.	**Engine**
7.1	**Construction:**
7.1.1	Engine offset is not permitted;
7.1.2	The back face of the engine cylinder head must be forward of a maximum of 600 mm rearwards from the centre of the front wheels.
7.2	**Size and Choice**
7.2.1	Any Ford 2 litre SOHC engine may be used;
7.2.2	The bore may not exceed 90.84mm plus an allowance for a 1.5mm overbore; Sleeving back to standard (90.84mm) is allowed;
7.2.3	Sleeves may be over bored to a maximum of 1.5mm;
7.2.4	The stroke may not exceed 77mm;
7.2.5	The cylinder block may be skimmed however, pistons may not protrude above the cylinder
7.2.6	block upper deck;
7.2.7	Cylinder blocks may be in-line bored;
7.2.8	No other modifications permitted;
7.3	**Crankshaft/Control/Balancing**
7.3.1	Only standard cast iron crankshafts may be used;
7.3.2	Spot machining of the crankshaft to achieve balance will be allowed;
7.3.3	Tufriding and nitriding allowed, but polishing outside of the journals will be not be permitted; The minimum weight of the crankshaft is 12.7kg;
7.3.4	The number of bearings may not be altered;
7.3.5	Bearings may not be less than Ford specified minimum width;
7.3.6	Oversize bearings of standard or heavy duty material permitted;
7.3.7	Cross drilled crankshafts not permitted;
7.3.8	No forged steel crankshafts or connecting rods will be permitted;
7.3.9	Engine components may be balanced and spot drilling will be permitted for that purpose only,
7.3.10	at least one (1) components of each will remain standard and unaltered;
7.3.11	The conrod bolts may be changed but the conrod may not be drilled or modified to accept the replacement bolt;
7.4	**Pistons**
7.4.1	Only Standard Ford or standard replacement pistons (Karl Schmidt, Hepolite, Wellworthy, AE or Mahle) may be used;

7.4.2	Pistons or gudgeon pins may not be modified, other than for balancing in the case of pistons; no forged pistons will be permitted. Conrods may be modified to allow floating gudgeon pins.
7.4.3	Pistons may not protrude above the cylinder block;
7.4.4	Pistons may not be skimmed and identification marks on the pistons may not be removed;
7.4.5	Lightening and stress relieving is not permitted unless for balancing purposes;
7.4.6	Choice of piston rings are free but the number of rings must be as standard;
7.4.7	No machining of the piston will be permitted;
7.4.8	Accepted ring gapping permitted;
7.5	**Lubrication system**
7.5.1	Dry sump and/or semi dry sumps are not permitted;
7.5.2	Oil filters must be in the original position and must be clamped – a sandwich plate is permitted;
7.5.3	Oil galleries in the cylinder block and cylinder head must remain unaltered, with the exception of permitting restrictor plates which may be fitted in the block to increase oil pressure;
7.5.4	Sumps may be modified to hold more or less oil and may be baffled to prevent surge;
7.5.5	The oil pick up must terminate within the confines of the sump;
7.5.6	Aluminum sumps are permitted;
7.5.7	High pressure oil pumps are permitted;
7.5.8	High capacity oil pumps are not allowed;
7.5.9	An oil cooler may be fitted in the engine compartment, using a sandwich plated fitted between the oil filter and the block;
7.6	**Gaskets**
7.6.1	Only standard Ford or replacement gaskets designed specifically for the above engine may be used;
7.6.2	No copper Gaskets;
7.6.3	All gaskets must be unmodified with no sealing aids;
7.6.4	No competition gaskets permitted on any part of the engine or ancillaries;
7.7	**Camshaft**
7.7.1	Camshaft type is free;
7.7.2	Vernier timing gears permitted;
7.7.3	Standard length cam belts, used with the standard tensioner must be used;
7.7.4	No modifications permitted;
7.7.5	Centre drilled cam shafts are permitted. The oil spray bar may be removed and a splash shield may be fitted;
7.7.6	Roller cam bearings are not permitted;
7.7.7	Rocker arms are free but the use of roller rocker is not permitted;
7.7.8	Rockers may have the ends nipped;
7.7.9	Heavy duty rocker arm retaining springs are permitted;
7.7.10	Rocker Ball adjusters may be longer than original length.
7.8	**Cylinder head**
7.8.1	Any Ford 2.0 Litre Pinto SOHC casting allowed;

7.8.2	The cylinder head must not be modified (other than the skimming and valve spring fitment permitted) and material may not be removed from or added to the ports or the combustion chamber;
7.8.3	Valve guides must occupy their original position and must be standard parts;
7.8.4	No bronze or competition guides permitted;
7.8.5	Thin wall bronze inserts into existing guides are permitted;
7.8.6	Valves must be standard parts of standard length (110.65-111.65 for inlet valves and 110.10-112.05 for exhaust valves).
7.8.7	The valve head size shall be 42mm for the inlet valve and 36mm for the exhaust valve;
7.8.8	The head gasket face may be skimmed;
7.8.9	Any single or double valve spring may be fitted and the head may be modified to allow them to fit;
7.8.10	Only standard spring retainers are permitted;
7.8.11	Heavy duty rocker arm retaining springs are permitted;
7.8.12	No “O” rings permitted;
7.8.13	Three angle valve seats are permitted at the following angles 15/30,45,60/65’. The machining groove undercut of the valve seat tool may not protrude more then 25mm into the throat of the cylinder head chamber. This ridge may not be rounded off.
7.8.14	The slight lip on the valve where the back of the valve meets the valve seat may b ground away at a 30° angle to a maximum width of 2.5mm;
7.8.15	Strapping of the Head pedestals is permitted.
7.9	**Distributors and Management**
7.9.1	Either the Ford 2.0 Litre Pinto SOHC engine distributor (Motorcraft or Bosch), complete with points and condenser or a standard Ford electronic ignition system that uses a conventional coil must be used;
7.9.2	The mechanical or vacuum advance may be altered. The vacuum advance may be removed;
7.9.3	Notwithstanding the above the only Lumenition electronic ignition systems that are permitted are:
7.9.3.1	Ford Bosch fitting kit FK221 with power module PMA50; and
7.9.3.2	Motorcraft fitting kit FK9 with power module PMA50;
7.9.3.3	TP100/500/900 modules permitted.
7.9.3.4	Fuel injection restricted to Dicktator Fuel and Spark Management
7.9.3.5	A ‘pick up’ distributor must be used.
7.10	**Spark plugs**
7.10.1	Any standard heat range spark plug for a Ford 2.0 litre Pinto SOHC engine may be used;
7.10.2	Inserts will be permitted to accommodate spark plugs;
7.11	**Carburetor and Throttle Body**
7.11.1	Only the standard Weber 32/36 DGVA carburetor may be used; (EV carburetors permitted);
7.11.2	No polishing or re-profiling is allowed;
7.11.3	No modification to the carburetor body or original design is permitted;
7.11.4	Gaskets must be original or replacement replicas of the original meaning no modified gaskets are permitted;
7.11.5	

7.11.6	A single adaptor/insulator block manufactured from bakerlight must be fitted between the carburetor and the inlet manifold; Aluminium or steel blocks are not permitted;
7.11.9	The insulator/adapter block, with the two gaskets should be approximately **5mm** thick;
7.11.10	Main jets, primary jets, AIR jets, auxiliary venturis and emulsion tubes may be changed with replacement parts for the 32/36 DGVA and drilled. Max auxillary ventury size 4.5mm.
7.11.11	Pump jets may be changed or drilled
7.11.12	Butterflies may be modified to open together;
7.11.13	Replacement spindles may be fitted with standard screws;
7.11.14	Cold starting devices may be removed with the retaining lugs and the subsequent holes blanked off;
7.11.15	Air and fuel galleries may not be enlarged or modified;
7.11.16	Fuel may enter the needle valve/float chamber from either side;
7.11.17	Floats may not be modified or weighted and must control the fuel flow;
7.11.18	Needle valves may not be larger than 250 and may not be enlarged or modified;
7.11.19	The power valve must be fitted in the base of the fuel bowl, but may be sealed off. The diaphragm may be removed'
7.11.20	No trumpets are allowed;
7.11.21	The calibrated brass bush which controls the high speed enrichment, as fitted on the secondary venture side of the carburetor between the top and base of the carburetor, may be sealed off or enlarged, but must be fitted;
7.11.22	A secondary fixing on the fuel feed line is required and fuel may enter the carburetor from either side;
7.11.23	It is permitted to use a grub screw, or similar device, to fix the auxiliary venture to the carburetor;
7.11.24	**Throttle Bodies**
7.11.25	Standard 2L Ford Throttle Body is permitted
7.11.26	Single throttle body restricted to 50mm throttle
	Injectors are free
7.12	**Inlet Manifold**
7.12.1	Only Ford 2.0 Litre Pinto Cortina type SOHC engine manfold permitted;
7.12.2	The manifold may not be faced to alter the angle of the manifold or the carburetor;
7.12.3	No inlet port matching from the carburetor flange face or from the manifold ports to the head will be permitted;
7.12.4	No material may be added to or removed from the gas flow area;
7.12.5	Water circulation holes may be blanked off;
7.12.6	A stabilizer may be fitted to support the manifold;
7.12.7	Manifolds may be welded to Repair Cracks.
7.13	**External modifications**
7.13.1	Any production type starter motor, excluding competition types may be used;
7.13.2	Power grip type pulleys are permitted;
7.13.3	The crankshaft pulley is free;
7.13.4	Manual fuel pumps may be removed and replaced with remotely positioned electric pumps;
7.13.5	No electric water pumps permitted;

7.14	**Retention of standard parts**
7.14.1	All other parts appertaining to the engine, which have not been specifically mentioned must remain the standard Ford 2.0 Litre Pinto SOHC engine part;
HP 8.	**Exhaust**
8.1	All piping shall be secured with saddles, prevent exhaust pipes from coming free in the event of it break off;
8.2	Exhaust tail pipes passing out the side of the vehicle may only do so at a maximum height of 450mm, measured from the top of the pipe to the ground;
HP 9.	**Fuel**
9.1	Methanol, Avgas, racing and pump fuel allowed, no enhancements;
9.2	Methanol lubricants may be used such as Castrol R40 or Castor Oil;
9.3	It is highly recommended that Methanol using vehicles do have fire extinguishers fitted to the competitor compartment, with all safety measures taken when fitting extinguishers, preventing them dislodging in an event of impact;
HP 10.	**Steering and Suspension**
10.1	Only commercially available steering racks and steering boxes or quick ratio versions thereof as fitted to vehicles described in item 1.1 above may be used;
10.2	Suspension design is free but limited to either commercially available suspension uprights as fitted to vehicles described in item 1.1 above or locally fabricated components;
10.3	Adjustable spring platforms may be fitted;
10.4	Competition springs are permitted;
10.5	The use of rose type joints are permitted;
10.6	Shock absorbers are free but may have only one adjustment for either bump or rebound;
10.6.1	The total limit permitted is 4, with one per corner;
10.7	No remote shock absorber reservoirs may be used;
10.8	Power steering is permitted;
10.9	Suspension may be designed with an offset;
10.10	A maximum of 6 links may be used on the rear suspension;
10.11	Independent rear suspensions are not permitted;
HP 11.	**Transmission**
11.1	Any standard Ford 2Lt Pinto SOHC engine flywheel, which may be lightened, may be used;
11.2	Steel flywheel may be used;
11.3	Clutch plates are free, additionally copper plate types are permitted;
11.4	No competition type pressure plates will be permitted;
11.5	Flywheels may be doweled to the crankshaft;
11.6	Only standard Ford pressure plates are permitted;
11.7	Only standard Ford unmodified gearboxes as fitted to vehicles described in item 1 may be used;
11.8	Quaife or any racing type gearbox will not be permitted;
11.9	Only rear axles as fitted to any car described in item 1, may be used;
11.10	

11.10.1	Only differentials as fitted to any car described in item 1, may be used, with the exception of no limited slip type differentials will be permitted;
11.11	Differential must be locked;
11.12	Model 75 bakkie diffs may be used;
11.13	Gear ratios are free;
11.14	Only space from cars may convert from a front wheel drive system to a rear wheel drive system; Hydraulic release bearing systems are permitted. For this gearbox may be drilled to accept the slave cylinder. Clutch forks may be modified accordingly
HP 12.	**Wheels and Tyres**
12.1	Tyres Restricted to Locally Manufactured Tyres and Imported Road Going Tyres, with a value of less than R1 500.00 excluding VAT, that are commercially **available** from Commercial Fitment Centers the following size limitations – max width 205mm, 13,14 or 15 inch only.
12.2	A 13-inch control tyre will be introduced in 2019.
12.3	Each competitor is limited to 6 tyres per National Championship Series
12.4	This tyre limitation is restricted to the participation in the Heats and Final only and not for practice runs
12.5	Damaged tyres may be replaced at the sole discretion of the senior scrutineer at championship events with used tyres only;
12.6	Each competitor is responsible to ensure that the tyres are adequately marked;
12.7	No Slick or semi slick tyres or compound altering chemicals are permitted.
12.8	Skimming of tyres is strictly prohibited;
12.9	Tyres worn to an extent where 50% of the tread pattern is no longer visible are not permitted;
12.10	Tyres showing any degree of “canvass” or structural damage may not be used.
HP 13.	**Wings**
13.1	Wings are optional
13.2	Wing designs, positioning and sizes are free with the following restrictions.
13.2.1	Wing may not protrude beyond side of vehicle
13.2.2	Wing endplates may not exceed 500x500mm and may be offset to each other.