

## FORMULA SHEANE TECHNICAL REGULATIONS

### 1. Description

The Formula Sheane Championship will comprise solely of cars produced by Sheane Cars Ltd. The cars will be single seated type with a spaceframe chassis powered by an 1800 cc Rover 'K' Series engine coupled to a five speed Audi gearbox.

These regulations are set out by Sheane Cars Ltd. and may be amended by same. Any amendment will be communicated 30 days in advance of becoming effective.

An eligibility scrutineer will be appointed and he/she will be the Final Judge of Fact.

**Note: The term 'supplied by Sheane Cars Ltd.' means that the part/s can only be supplied by Sheane Cars Ltd. and are unmodified in any way.** The term 'as supplied by Sheane Cars Ltd.' means that the part/s can be sourced elsewhere but must meet the same general specification as the original supplied by Sheane Cars Ltd.

The eligibility scrutineer will have a sample of each wishbone, front and rear rollbars, wing end plates, front and rear hubs and ecu for comparison purposes.

~~**Removed: All cars must be presented for rolling road check prior to season start, when new seals will be fitted to engines, gearboxes and ecu's by Sheane Cars Ltd.**~~

In the event of protest by another competitor, the driver must submit his car for rolling road check, which if found to be over the ~~average~~ horse power limit the engine will be stripped for examination by the eligibility scrutineer. If found to be illegal the standard penalties will apply. The eligibility scrutineer, may, at his own discretion, request that a car be submitted for rolling road check at any time.

### 2. Chassis

The chassis will be a steel spaceframe manufactured supplied by Sheane Cars Ltd. incorporating a roll over hoop.

Non performance enhancing minor repairs and adjustments etc. may be made by an individual, however, should the work be contested by another individual, the final judge of fact will be consulted.

No major repairs or changes including altering moving points are permitted.

### 3. Bodywork

Bodywork is supplied exclusively by Sheane Cars Ltd. The bodywork comprises of the nosecone, top cover, engine cover and sidepod covers, all constructed of fibreglass. It is each competitors responsibility to maintain the body work in a safe and presentable manner and may be required to replace items if found not to meet these criteria by the final judge of fact. No changes may be made to bodywork with the exception of holes etc. to accommodate mounting fasteners.

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The floor comprises of the steel section contained in the main chassis and two wooden panels either side. These wooden panels must be as supplied by Sheane Cars Ltd. No extra aerodynamic devices are allowed including extended doors/undertrays.

Max Height at front of cockpit 740mm.

Max height of side pod in line with front of cockpit 450mm.

Max height of bodywork over rollbar 1050mm.

### 4. Tyres

The only tyre permitted for the class is as follows:

Front - AVON ACB 10      7.0/210-13 78V

Rear - AVON ACB 10      8.0/220-13 89V

### 5. Wheels

The only wheel types permitted for the class is supplied by Sheane Cars Ltd. and manufactured by Comptomotive Ltd. to Sheane Cars Ltd. specifications.

### 6. Wings

Two wings are fitted to the car one single at the front and a double wing on the rear. These can only be supplied by Sheane Cars Ltd. All wing sections and endplates must be unchanged from original dimensions.

#### Rear Wing

Overall width 920mm.

Depth of plane 220mm.

Distance between planes 215mm.

Bottom plane must be horizontal.

End plate 280 x 330mm.

Distance from rear of suspension cross member to rear of bottom plane 555mm.

All measurements max tolerance of plus/minus 10mm excepting accident damage.

Top plane max angle 25mm from horizontal in slot, tolerance plus/minus 5mm.

**N.B:** *All Scholarship Championship* competitors must have rear wings painted Dayglo Yellow for identifications purposes.

#### Front Wing Plane

Horizontal:    Height max 145mm.

                  Depth 160mm.

                  Overall width 1030mm.

                  Endplate length 255mm.

                  Depth 110 x 90mm.

Distance from chassis front to rear of wing plane 360mm.

## **7. Brakes**

Disc brakes are fitted front and rear and are operated by two independent fluid systems. Callipers and discs are as supplied by Sheane Cars Ltd. unchanged in any way. Brake pad type is free. Brake fluid type is free. Brake lines must be of either steel or kunifer tubing or flexible braided hosing. Brake bias control is as fitted originally.

## **8. Front Suspension**

Front suspension is dual inboard shock absorber configuration and comprises of the following components:

- a) Hub Assembly
- b) Wishbones
- c) Pushrods
- d) Bell crank
- e) Shock Absorber (bump stops may be fitted or removed)
- f) Springs
- g) Rod ends
- h) Anti roll bar

All above supplied by Sheane Cars Ltd. and must be assembled in the same configuration as Sheane Cars Ltd.

Front roll Bar diameter 12mm.  
Spring poundage free but must be 1.9DIA and 6" uncompressed length.  
Front track width max 1470mm.

Rear Roll Bar diameter 16mm.  
Spring poundage free but must be 2.25DIA x 9" uncompressed length.  
Rear track width max 1425mm.

## **9. Rear Suspension**

Rear suspension is dual outboard shock absorber configuration and comprises of the following components:

- a) Hub Assembly
- b) Wishbones
- c) Trailing arms
- d) Tie Rod
- e) Shock Absorber (bump stops may be fitted or removed)
- f) Springs
- g) Rod ends
- h) Anti roll bar

All above supplied by Sheane Cars Ltd. and must be assembled in the same configuration as Sheane Cars Ltd.

**10. Steering**

Steering is rack and pinion type. Steering rack and track rods are supplied by Sheane Cars Ltd. spacers are permitted on tie rod ends to eliminate bump steer and must be assembled in the same configuration as Sheane Cars Ltd.

**11. Safety**

The car must be fitted with seat belts and a fire extinguisher that meet the current scrutiny requirements as per the current Motorsport Ireland Green Book. An operational red light must also be fitted to the rear of the car.

**12. Fuel Delivery System**

Tank and pump are supplied by Sheane Cars Ltd. A firewall consisting of an aluminium sheet must be fitted between the fuel tank and the drivers seat.

**13. Fuel Type**

Only unleaded RON95 type fuel may be used. All fuel must be of a type available on the major retail forecourts on sale to the public. No additives of any type including upper cylinder lubricants are allowed.

**14. Fuel Injection System**

Standard 1800 cc K Series system supplied by Sheane Cars Ltd.

Standard Rover injector no. 0280 155 884 Standard plastic inlet manifold with alloy or plastic throttle body DIA 48mm. Standard 3 bar pressure valve.

**15. Air Filter**

RU 3120. Supplied by Sheane Cars Ltd.

**16. Engine**

1800 cc K Series engine sealed and supplied by Sheane Cars Ltd.

Rover 1.8 K16 (non VVC) Production Engine using standard lubrication, injection and ignition systems, sealed and supplied by Sheane Cars Ltd.

**Engine Block**

Standard 18K 4F Unit fitted with standard wet liners and piston or Omega forged pistons supplied by David Sheane.

Bore 80m.

Stroke 89.5m.

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Standard crankshaft and connecting rods (unbalanced)

1.8 conrod length 133.1mm.

1.6 conrod length 139.9mm

### Cylinder Head

Unmodified, apart from machining necessary in reconditioning same. Ports as cast inlet max DIA 32.50.

Standard inlet valves DIA 28m seat angle 45o.

Standard exhaust valves DIA 24m seat angle 45o.

Heads with triple angle seat are permitted with: Angles 15o  
Angles 45o  
Angles 60o

Minimum seat face width is: 1.25mm inlet.

1.40m exhaust.

Max valve spring length uncompressed is 51.5m.

Kent steel spring retainers, part no ST69 may be used.

### Camshaft

Kent RK 1811 cams supplied by Sheane Cars Ltd. driven by C67 Vernier Pullies.

Lift 425" Duration 258.

Timing inlet 110o ATDC Tolerance Plus/Minus 2o.

Exhaust 105o BTDC Tolerance Plus Minus 2o.

### Seals

Every time a seal is broken on an engine the car must be returned to the rolling road for assessment and adjustment. Record of settings to be kept by David Sheane which should include engine seal numbers and settings.

### 17. Gearbox Adaptor

Gearbox adaptor and flywheel supplied by Sheane Cars Ltd.

### 18. Gearbox

Audi 3M unit sealed and supplied by Sheane Cars Ltd. The following gear ratios must be used and gears must be original parts.

1 <sup>st</sup> Gear	3.45:1
2 <sup>nd</sup> Gear	1.94:1
3 <sup>rd</sup> Gear	1.28:1
4 <sup>th</sup> Gear	0.90:1
5 <sup>th</sup> Gear	0.73:1

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Final Drive      4.11:1

The following ratios can be used in checking gear ratios. This ratio is the number of engine revolutions to driven wheel rotations.

1 <sup>st</sup> Gear	14.18:1
2 <sup>nd</sup> Gear	7.97:1
3 <sup>rd</sup> Gear	5.26:1
4 <sup>th</sup> Gear	3.70:1
5 <sup>th</sup> Gear	3.00:1

Driveshafts and CV joints are as supplied by Sheane Cars Ltd.

### 19. Clutch

As supplied by Sheane Cars Ltd.

### 20. Cooling System

*Two* radiators *to be* used as supplied by Sheane Cars Ltd, a cooling fan supplied by David Sheane Cars Ltd may be used.

### 21. Lubrication System

Standard 'Rover Wet Sump'. *Oil cooler kit supplied by Sheane Cars Ltd. may be used.*

### 22. Exhaust

Complete exhaust system manufactured and supplied by Sheane Cars Ltd.

### 23. Ignition System, Engine Management Unit & Electrical System

Supplied by Sheane Cars Ltd. including operational starter and alternator. Battery is free.

ECU's will be sealed by Sheane Cars Ltd. and may be exchanged at random at eligibility scrutineers discretion.

### 24. Electronic Aids

All electronic driver aids such as launch control, abs, traction control, powershift units etc. are not permitted. An on board lap timing system and data logging is allowed.

### 25. Advertising Signage and Race Numbers

All competitors may be required to carry class sponsors logos etc. unless they directly clash with a personal sponsor and have received prior permission by the judge of fact. Competitors will also be required to place race numbers etc. in designated locations.

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All race numbers will be assigned by the Formula Sheane Association in accordance with the Championship positions from the previous year.

### 26. Ride Height

The minimum ride height from the lowest part of the car excluding the wheels is 40mm.

### 27. Weight

The minimum weight for the car in race trim, i.e. including all fluids at normal levels, except fuel is **460kgs**. The minimum weight for the car as above including driver is **550kgs**.

### 28. Engines Output

Maximum BHP at wheels to be 145BHP as measured by Track-Day Performance. ***Engines sealed by David Sheane during rolling road test.*** If a greater variation in engine power is discovered during rolling road test it ***will*** be subject to further investigation. The ***championship winning car will*** be returned to rolling road test at ***the racing seasons*** end. If a seal is broken on an engine it must be resealed before the next race and rolling road test must be completed before subsequent race.

All rolling road test costs will be covered by drivers.

All cars must be tested and sealed in order to qualify for points.

The cost of pre-season rolling road testing will be met by the drivers.

CLASS SCRUTINEER: As appointed by the Technical Advisory Group

