

APPENDIX 5 (a)
2025 SCOTTISH FIESTA XR2 CHAMPIONSHIP
TECHNICAL REGULATIONS

5. TECHNICAL REGULATIONS:

5.1 INTRODUCTION:

The following Technical Regulations are set out in accordance with the ASN specified format and it should be clearly understood that if the following texts do not clearly specify that you can do it you must work on the principle that you cannot. The Eligibility Scrutineer will make any decisions as to the compliance with the rules and spirit of the Championship. It is up to the Entrant to prove any performance parts are in period specification and within the spirit of the regulations. If in doubt contact the Eligibility Scrutineer.

5.2 GENERAL DESCRIPTION:

The Scottish Fiesta XR2 Championship is for Competitors participating in Ford Fiesta XR2 1.6 XR2 CVH pre lean burn carburettor model.

5.3 SAFETY REQUIREMENTS:

5.3.1 Helmet and racewear to NCR Ch.9 and Ch.12 App.12 Art.3 applies throughout the Competition, Practice, Race or Event.

5.3.2 Cars must have working lights **(including headlights or front facing high intensity lights)**, working wipers and a working handbrake **or hydraulic method of holding the car in a static position**. Tyres that have been supplied new without E markings will be permitted provided they comply with Art. 5.13.1 of these Technical Regulations.

5.3.3 The following articles of the NCR will apply;
ROPS: NCR Ch.7 App.3 Arts.1-21 & Art.23; Ch.7 App.13 diagram 14 (with a mandatory lateral door bar).

5.3.4 If fitted with a sunroof, this must be made of steel and securely fixed in the closed position by at least two additional fixings.

5.3.5 Cars must be fitted with glass or polycarbonate in all windows. Front windscreens must be either laminated safety glass or polycarbonate.

5.3.6 A full harness safety belt with a minimum of 4 straps (2 shoulder, 2 waist) must be installed to NCR Ch.7 App.7. Three Point Harnesses (Art. 6) are not permitted. All harness straps must be adjusted so that in use the harness buckle is located on the Driver's body only in the area between the top of the thigh and the top of the pelvic girdle and must not be located any higher on the abdomen.

5.3.7 Fire extinguisher – a plumbed in unit for discharge into the cockpit and engine compartment as defined in NCR Ch.7 App.6 is the minimum requirement. Fire extinguishers must be an FIA homologated standard Fire Extinguisher Systems in Competition Cars (1999) or FIA Standard 8865-2015 and be serviced by the manufacturer or their agent within the preceding 24 months.

- 5.3.8 A battery cut-off master switch must be installed and a circuit breaker complying with NCR Ch.7 App.5 Art.5 must be fitted and be identified by a red spark on a white edged blue triangle and the ON and OFF positions are to be clearly marked.
- 5.3.9 Replacement of the original seat with an FIA standard competition seat is strongly recommended.
- 5.3.10 All Cars are to be of sound construction (i.e. no dangerous levels of rust / damage).
- 5.3.11 Towing eyes must be in accordance with NCR Ch.12 App.13 Art.1.3 & 1.4. These are wire rope loops. Fabric loops will not be accepted.
- 5.3.12 At least one high intensity FIA specification rear light complying with NCR Ch.7 App.5 Arts.6.1 to 6.3 located externally on the rear, shall be fitted to the Car and be switched on when instructed by the Clerk of the Course or other Race Official.

5.4 **GENERAL TECHNICAL REQUIREMENTS & EXCEPTIONS:**

- 5.4.1 Definitions: All references to standard parts and/or material in these regulations shall be interpreted as references to the manufacturers original specification(s) as appearing on the Ford XR2 Production Car Specification Sheets as appropriate.
- 5.4.2 Prior to competing in this Scottish Classic Sports & Saloon Championship the Car must undergo a Safety Scrutineering inspection which will be undertaken by the Organiser's Chief Scrutineer, Championship Eligibility Scrutineer or their appointed deputies, unless the Car competed in the same condition in the preceding year Championship. Additionally all Cars must undergo a Safety Scrutineering inspection at least every 4 events. Any Car involved in a contact Incident, or having been modified in any way, must be represented to the Scrutineers for further examination (NCR Ch.7 App.12 Art.1.5) unless notified to the contrary by a Championship or Event Official. A record of inspections will be maintained by the Championship Organiser. The Event Organiser may select Cars for pre-Event safety inspections, the method of selection and times/locations for inspection will be notified in the Event Official Documents.

5.5 **CHASSIS:**

As original.

5.6 **BODYWORK:**

Interior trim and all dash instruments must be as the original XR2 model and must be complete with all switches (with the exception of the heating control), air vents, steering controls, glove box lid, steering column cowl, etc. All door trim and side panels (whether reconstruction or original) must be fitted and it is recommended that boot area panels remain fitted. The Scrutineers will allow modified dashboards and instruments only if the car has been raced previously in this form in the Scottish Fiesta XR2 Championship.

5.7 **ENGINE:**

- 5.7.1 Engine location must remain as standard position.
- 5.7.2 Engine maximum cylinder capacity of 1620.77cc is permitted and a 1594cc minimum volume. Baffles are permitted in the sump.



- 5.7.3 Fitment of an additional oil cooler within the confines of the bodywork is permitted provided this does not entail modification to the bodywork or radiator grill. It is permitted to fit an oil pick-up pipe.
- 5.7.4 Removal of the coolant thermostat is permitted.
- 5.7.5 Oil/Water Cooling. All parts must be standard except Arts. 5.7.2, 5.7.3 & 5.7.4 of these Technical Regulations, coolant hoses excepting, although any replacement hoses must conform to the standard internal diameter as the original Ford parts. The standard fan cowlings must be used.
- 5.7.6 The induction system **is free**.
- 5.7.7 The ignition system must remain standard but spark plugs **and use of** vacuum advance/retard mechanisms are free.
- 5.7.8 **It is permitted to replace the** air cleaner **with an alternative or competition unit and filter**.
- 5.7.9 Alteration of the standard quality of fuel or air reaching the engine is prohibited except as permitted in Art. 5.7.8 of these Technical Regulations.
- 5.7.10 The machining of the connecting rod bearing cap is permitted, providing that the minimum weight for the connecting rod assembly is adhered to, as stated in Art. 6 (f).
- 5.7.11 An engine rev limiter may be fitted, the only permitted model is LUMENTION ERL-V; setting is free. If fitted the unit and all associated wiring must be in the engine compartment and easily identifiable.
- 5.7.12 Polishing or reworking of any part(s) including the inlet and exhaust manifolds, the inlet and exhaust tracts and combustion chamber space in the cylinder head is **permitted**.
- 5.7.13 Exhaust system is free. Cars must comply with NCR Ch.7 App.8 Art.1. An additional centre support must be fitted to the exhaust system. Exhaust manifold wrapping is permitted.
- 5.7.14 Engines may be sealed under the direction of the Eligibility Scrutineer or their nominated agent at any time during the season and for the duration of the Championship. Seals must not be broken under any circumstances. If seals are broken the engine will be deemed ineligible unless a full internal inspection is carried out by the Organiser or their nominated agent. The inspection will be at the Competitors cost. Additional ASN seals may be fitted to engines at anytime. It is strictly forbidden for a Competitor or their agent to remove or tamper with ASN seals. Should these seals be damaged or removed for whatever reason except under the direction of the Eligibility Scrutineer the Car must not be used in any part of the Competition until the Eligibility Scrutineer has inspected the engine and refitted the correct seals.
The Eligibility Scrutineer may require that the engine be removed and taken to an approved venue to be dismantled for inspection and the cost of this, and subsequent rebuild, will be borne by the Competitor. All instances of broken seals will be logged and reported to the Championship Stewards via the Championship Coordinator.

5.8 **SUSPENSION:**

- 5.8.1.1 Cars may be modified to Group N specification with the exception of fitting a Hydraulic McPherson strut. Setting is free. Alternatively the standard XR2 front may be retained. No modifications to this strut are permitted. Camber adjustment is not variable with this strut. Cars must have a minimum ground clearance between the transverse seam on the bulkhead and the ground of not less than 650mm without the driver on board.
- 5.8.1.2 Spring and spring trim free.
- 5.8.1.3 Adjustable platforms are permitted (Front only).
- 5.8.1.4 A “strut brace” may be utilised and consist of a single steel tube bolted-in strut brace between front suspension top mounting points.
- 5.8.1.5 Rubber suspension bushes may be replaced with uprated polyurethane bushes, but only in the Front Lower Control Arm (inner bush), Tie Bar, Rear Anti Roll Bar and Rear Trailing Arm.
- 5.8.2 Prohibited modifications
 - 5.8.2.1 Vehicle dampers/shockers must be hydraulic with single adjustment for bump and rebound; no external reservoir types permitted or rose joints.
 - 5.8.2.2 Alterations to suspension mounting/attachments or type of operation are prohibited except as permitted in 5.8.1.4 and 5.8.1.5 of these Technical Regulations.
- 5.8.3 Wheelbase/Track must remain standard.
- 5.8.4 Rear Axle – Standard Group N axle or upgrade version with welded flanges fitted with brake assembly and shoes from Ford Fiesta 1400 MK4 1998 / 2001 model or Ford KA (drum brakes only), (Upgrade version; details from PCR Motorsport, Knockhill Racing Circuit, Saline, Dunfermline, Fife, email F40mks@hotmail.com).

Shims will be permitted on rear axle fixing but manufacturers max camber must not be exceeded.

5.9 **TRANSMISSION:**

- 5.9.1 Must remain standard except the material and method of fixing of clutch disc lining is free. The standard Clutch Pressure Plate may be replaced by RS Pressure Plate 9094995O. Clutch disc diameter 200mm or 220mm. Gear linkage is free. Only standard XR2 drive shaft units are permitted.

- 5.9.2 Gear ratios must be in compliance with appropriate Ford Motor Company specification sheets both in terms of ratio and teeth combination:

| Gear | Ratio | Teeth |
|-----------------|---------|-------|
| 1 st | 3.154:1 | 41:13 |
| 2 nd | 1.913:1 | 44:23 |
| 3 rd | 1.274:1 | 37:29 |
| 4 th | 0.951:1 | 39:41 |
| 5 th | 0.756:1 | 34:45 |
| Reverse | 3.615:1 | 47:13 |

Or, as above except: 3rd 1.281:1/41:32.

Final drive: 3.58:1/19:68 or: 3.82:1/17:65

5.10 **ELECTRICS:**

- 5.10.1 Electrics are free subject to NCR requirements, but must include the following:
- 5.10.2 The headlamp unit may be replaced by a dummy panel provided that the shape and location are identical to the original headlamp unit. All other lights must be retained and in full working order. One FIA specification high intensity LED rear light must be fitted in the centre line below the rear screen. It must be clearly visible, fitted at the bottom of the screen outside the Car.
- 5.10.3 A charging system must be fitted and working.
- 5.10.4 Batteries are free. Fitment of additional battery strap and non-metallic covers is permitted.
- 5.10.5 A starter system must be fitted and be capable of starting the engine.
- 5.10.6 No Electronic engine or driver aids are allowed, except:-
Rev counter, Rev Limiter, In car lap timer (but not telemetry).
- 5.10.7 Alternator, all lighting (except headlamps) and starter must be standard and fully operational. Original bumper mounted Ford foglamps may be replaced with a single centrally mounted unit to standard FIA specification.

5.11 **BRAKES:**

- 5.11.1 Disc pad and brake shoe friction material free.
- 5.11.2 It is prohibited to increase or reduce the friction contact areas.
- 5.11.3 Additional cooling pipes are prohibited.

5.12 **WHEELS / STEERING:**

- 5.12.1 Standard Ford alloy wheel or V82FB 1007 AA Diameter 13 inches: Rim 6J: Offset (Dim) 108mm from mounting face to inside rim. Wheel spacers are prohibited.
- 5.12.2 If fitted, the steering lock must be made inoperable whilst Racing (or permanently if preferred). Replacement steering wheels may be used provided they comply with NCR Ch.7 App.2 Arts.11.1 & 11.2.

5.13 **TYRES:**

- 5.13.1 Any tyres listed on the NCR Ch.8 App.4 list 1A, 1B or 1C. Compound is free.
- 5.13.2 The use of tyre heating/heat retention devices, tyre treatments and compounds is prohibited.
- 5.13.3 Wheels Around are the authorised and preferred supplier.
- 5.13.4 Tyres that have been supplied new without E markings will be permitted provided they comply with Art. 5.13.1 of these Technical Regulations.

5.14 **WEIGHTS:**

Minimum car weight:- 760kgs

The weight including the Driver at any time during Practice or Race should be a minimum of 845kgs. If ballast is carried it must be identified to the Eligibility Scrutineer at pre event scrutineering and must be capable of being sealed in position if required (NCR Ch.7 App.2 Art.19.3).

5.15 **FUEL TANK/FUEL:**

5.15.1 Only Fuel defined in NCR Ch7.8 App.1 **Art.1.7 a) or b) is permitted**. The use of power boosting additives by Competitors in any Fuel is prohibited.

5.15.2 **It is permitted to replace the standard fuel tank. Fuel tanks must be in accordance with NCR Ch.7 App.4.**

5.16 **SILENCING:**

All Cars must comply with the maximum decibel level as specified in NCR Ch.7 App.8.

5.17 **NUMBERS and CHAMPIONSHIP DECALS:**

5.17.1 All Cars must be identified by numbers complying with NCR Ch.7 App.10 displayed in a position acceptable to the Timekeepers.

5.17.2 Sponsors' decals must be carried on each Car if requested by the Organiser. Specific locations on the Car are reserved for Championship sponsors; locations are as stipulated in the diagrams, which will be supplied. One set of series decals will be supplied free of charge by the Championship Organiser. The Championship Organiser reserves the right to charge for replacement decals.

6. FIESTA XR2 ENGINE SPECIFICATION SHEET:

XR2 ENGINE SPECIFICATION SHEETS: O.H.C. ONLY

(a) Cylinder Block

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Part number | 81SM 6015 CMA or 86SM 6015 BA |
| Number of cylinders | 4 |
| Material | Cast Iron |
| Bore | 79.94/79.98 standard bore + 0.50 re-bore allowance |
| Stroke | 79.42/79.62 |
| Swept volume | 398.7 - 405.19 per cylinder |
| Total volume | 1594 -1620.77 c.c. |
| It is permitted to reclaim engine blocks by fitting liners or by boring by 0.5 m.m. i.e. to a maximum dimension for the cylinder bore of 80.48. | |

(b) Crankshaft.

| | |
|-------------|----------------------------------|
| Part number | 81SM 6303 CH or 86SM 6303 BAA |
| Material | Cast iron (Nodular) |
| Finish | As cast/machined |

(c) Connecting rod:

| | |
|-------------|-------------------|
| Part number | 81SM 6200 CB |
| Material | Forged steel |
| Finish | As forced |
| Weight | 564,5 +/- 6.5 gms |

(d) Flywheel

| | |
|-------------|---------------------------------|
| Part number | 81SM 6375 KE or 86SM 6375 AA |
| Material | Cast iron |

No lightening /machining allowed. Minimum weight 6.5 kgs.

(e) Cylinder Head

| | |
|---------------------------|--------------------|
| Part number | 81SM 6090 ARH |
| Material | Die cast aluminium |
| Tract finish | As cast |
| Combustion chamber volume | 53.3 - 56.0 c.c. |
| Combustion chamber finish | Fully machined |

The cylinder head gasket is free

(f) Camshaft:

Free.

(g) Valve Actuation

| | |
|-----------------------------|------------------------------------------------------------|
| Valve Users - part number | 81SM 6500 D2E |
| Valve lifters - | Hydraulic or Solid |
| Rockers - part number | 81SM 6564 EE |
| Valve springs - part number | 81SM 6513 AE or may be replaced with an alternative |
| Number of coils | 6 |
| Wire diameter | 32.7 |
| Maximum free length | 47.2 |

Piston:

| | |
|---------------------------------------------------------------------------------------------------------------------------|-----------------|
| Part number | 81SM 6102 DA |
| Material | Cast aluminium |
| Number of rings | 3 |
| Weight - Piston, pin and 3 rings | 506 gms minimum |
| Where engine block has been reclaimed by re-boring as specified the appropriate oversize pistons and rings may be fitted. | |

(h) Compression Ratio - Maximum:

| | |
|--------------------------------------------------------------------------|------------------------|
| Head casket - compressed thickness | 1.64 m.m. minimum |
| Head casket - volume allowance | Vg = 8.7 c.c. minimum |
| Combustion chamber volume in head | Vh = 53.3 c.c. minimum |
| Piston volume above block face (including allowance down to top ring) | Vb 18 c.c. maximum |

| | | |
|-------------------|------------------------------|------------------------------------------------|
| Compression Ratio | $\frac{v}{Vh + Vg - Vb} + 1$ | $\frac{400}{53 + 8.7 - 18} + 1 = 10.1$ maximum |
|-------------------|------------------------------|------------------------------------------------|

Some of the part numbers above may be superseded by the Ford Motor Company and in this event direct replacement Ford Motor Company parts may be used. It is strongly recommended that you obtain permission in writing from the Eligibility Scrutineer before the fitting of any such replacement parts.

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