



# Mini F2's Specifications

**Mini F2 Stock Cars are an introductory junior class of short oval motor racing. The aim of Mini F2 Stock Cars is to offer a, cheap fun way for young drivers to start racing and learn track craft. Racing should be enjoyable fun; where there is little emphasis on intense competitiveness.**

To ensure there is no competitive advantage to be gained, the car must remain as manufactured by Barford Raceway and some parts on the cars must be as supplied through Barford Raceway. The tight control of the formula is in place to ensure an even playing field, to guarantee the emphasis remains on fun, and not competitive advantage and expense, to ensure this keeps the formula cost effective. To guarantee this is achieved engines, wheels and tyres must be supplied through Barford Raceway. All other parts are also available through Barford Raceway.

Teams that wish to win at all costs, or who don't subscribe to how the formula is controlled, or who feel that winning is everything are not welcome in this formula.

By signing the current licence application form on behalf of your child, you are agreeing to abide by the specifications set by Barford Raceway.

**Barford Raceway reserve the right to refuse any application without recourse.**

Barford Raceway have the right to add, modify or alter any rules herein for Health and Safety requirements. Teams and Officials will be notified of any changes immediately.

**Any cars NOT built by Barford Raceway are welcome to race with Mini F2, BUT cars not purchased from Barford Raceway MUST be brought for inspection BEFORE they apply for to race. Inspections are chargeable at a cost of £50.**

## VIOLATIONS

When referring to these specifications regarding any items such as engine, mechanical or construction, the principle will always be: unless permission is specifically granted to make modifications, or any variation, nothing may be done to alter or change in any way the standard Parts. Unless these rules state you can do it, you **CAN-NOT DO IT**, no matter how irrelevant you may feel it is.

**Violations or any refusal of a scrutineering check may result in an immediate suspension from racing.**

Scrutineering checks, on any item such as fuel, engines, exhausts, air filters, carburettors, spark plugs, can be carried out at any time. If parts are suspected of being illegal you must leave them with the promotion if you do not agree. If you refuse it will automatically make the parts illegal. The part will then be sealed and takeaway for inspection, if the part is legal it will be returned, if the part is illegal, the relevant action will be taken.

Arrival is expected no later than one hour before the published start time for a meeting, to enable safety checks to be carried out. Should you not be there in time you may be precluded from taking part in your first race.

A scrutineer will be appointed by Barford Raceway and their word will be final in the conjunction with the Steward of the meeting. Time will be given for the Team to correct any fault, but if any serious breach of regulations is found to have occurred, the car will not be allowed to race at that meeting.

Always make sure that you have your licence/log book with you at every meeting. Faults will be noted in your log book, and it is your responsibility to make sure these are rectified.

Pre-meeting scrutineering is more about safety checks. Just because a car passes, it does not mean it is technically legal. The car may not be raced again until the technical issues have been resolved.

Barford Raceway, and/or any affiliated promotions have the right to disqualify any driver, mechanic or associated member of their party contravene the rules of racing. Please note this also covers all social and media type networks.

If a driver is seen to be making any kind of offensive hand gesture of any type towards another driver/team, or Officials on track or in the pits, will automatically be loaded, and an immediate suspension from all racing may be put in place.

*If any Team is found in violation of the rules and regulations, a yellow card will be issued, which is a warning. If a 2nd yellow card is issued, this then becomes a red card, which is automatically a 1 meeting ban, or worse.*

## **INTERPRETATIONS OF THE RULES**

If the scrutineer feels that someone is interpreting the rules, to try and gain an advantage in any way, then action will be taken. Unless these rules state you can do it, you CANNOT DO IT. It is the Team's responsibility to make sure their car is legal "it was like that when I bought it" is not a valid excuse. It is the responsibility of the parent/guardian to prove to Barford Raceway that the part is legal by the way of written proof of where the part originated. This must be done within a seven day time frame, otherwise the part(s) in question will be deemed to be illegal and will result in immediate suspension from racing and referral for disciplinary action.

### **1. DRIVER REQUIREMENTS**

- The minimum age to compete is 7years old and all drivers will end on their 11th birthday.
- ALL applicants are required to complete the Junior Competence Test, which includes a multiple choice written test and a basic driving skills test before a licence will be issued. This is chargeable at £50 and undertaken with the Barford Raceway promotion.
- New drivers will be deemed to be 'ROOKIE' drivers for up to their first THREE meetings and must start at the rear of the grid. They MUST display a black cross on a white background (minimum size 200mm square) on the rear of their car during this period.
- If a driver appears to be excessively slow or lacks in basic driving ability or confidence and seems to be a danger to themselves or other drivers/officials they may be asked to re-sit their test, or their licence may be suspended until proof of extra practice sessions have been undertaken before being allowed to race.

### **2. THE CAR**

- All Mini F2 Stock Cars must be manufactured or inspected by Barford Raceway.
- Cars are manufactured to strict specifications and all parts must remain as ex-factory condition.
- The chassis must not be altered in anyway, for example no twisting or realigning.
- The chassis must remain in its manufactured form. No ballast permitted. All RHS/SHS/CHS steel must remain hollow. Removal of any steel work such as structural cross braces is not permitted.
- A car may be shared at a meeting (maximum 2 drivers per meeting) BUT both drivers must have carried out the Junior competence test and hold a valid license. A Team may have more than one car but there can be no swapping of cars during a meeting, and only one car can be presented for scrutineering (which must be the car that is being used for racing).
- It is permitted to hire out your car, but there are no day licences issued.
- If a car is purchased second hand the chassis must be inspected by Barford Raceway.
- The chassis may be repaired BUT if the scrutineer is not happy with the quality of the repair, he may refuse you to race until it is sorted.
- The addition of flared sides or scoops to the bonnet are permitted by prior agreement with Barford Raceway. Should the scoop unduly obstruct the driver's view, it must be removed and the scrutineer's decision will be final. If approval is granted the original bonnet must not be cut in any way to accommodate such items. A front aerofoil may be fitted, but must be approved by Barford Raceway, or at the scrutineer's discretion.
- The original bonnet front steel hoop must be used and in place at all times.
- Cars that need major repairs that involve repairs to mounting points, roll cages or main chassis can be done but MUST be checked by Barford Raceway.
- ALL bolt on items can be supplied through Barford Raceway include; wheels and tyres, 22 teeth taper centre pulleys, front hub bearings, throttle cables, batteries, front stub axles, front axle, front hubs, steering rack, exhaust, rear axle, rear wheel hubs, sprocket, fuel tank, clutch, brake disc, brake calliper, master cylinder, front bumpers, rear axle guards. All items must remain as supplied. Certain items will be checked at all times.
- The cab floor must be constructed from a minimum of 2mm thick steel plate. It must extend rearwards from the firewall beyond the point at which it overlaps in a vertical plane (across the entire width of the car) with the transverse front edge of the driver's seat. The cab floor must cover the full width of the area between the chassis rails along the floor's entire length.
- The cab floor must be welded to the chassis on all sides but does not have to be seam welded.
- No drilling or lightening of any mandatory panels or the chassis is permitted.
- All panels, mandatory or non-mandatory must be constructed of a minimum of 0.8mm thick aluminium. This includes extra panels such as chain guards, shale guards etc.

- The following panels are mandatory: Bonnet, cab side panels (waistline up), rear cab panel, footwell side panels, lower chassis rear panel (main chassis to bottom of undercarriage).
- Any panel repairs i.e. holes or damage must be undertaken with minimum 0.8mm thick aluminium.
- If extra cab sides are fitted, they must be made to allow easy access to enter and exit the car at all times (scrutineers discretion).
- The nerf rails maybe closed in, particularly to protect the drive gear, and this is free. The nerf rails must not be offset.
- All engines must be bolted to the left hand side, cars with centrally mounted engines must ask for permission to be used and must be inspected by Barford Raceway.
- Front and rear bumpers may be fabricated but must be constructed from RHS 50mm x 25mm with a 2.5mm wall thickness. It is permitted to repair the bumper by means of welding, and/or using up to two steel plates on one bumper, maximum 3mm thick, maximum size 100mm x 50mm. The plates are to repair the flat face of the RHS. No extra strengthening is permitted. You are permitted to replace the bumper stays/braces with new ones. Bumper hoops must be 16mm solid bar, as per original. Scrutineers reserve the right to class a bumper as being excessively repaired and it will not be permitted for use.
- A secondary hoop under the bumper is permitted, but this must be identical to the hoop on the top of the bumper (16mm solid bar). This hoop can be fabricated.
- Rear bumpers maybe bolt on, but must be securely attached with minimum M8 bolts.

•The under carriage below the rear axle mounting points maybe removed (as show in the diagram opposite) to allow easy axle removal. However, if this modification is made, then the piece of tube removed must be welded to a piece of flat steel 4minimum 2mm thick and 30mm wide and bolted to the chassis below the axle mounting points with minimum M8 bolts. Alternatively, a piece of flat steel minimum 5mm thick and 30mm wide can be bolted in the same manner. If both sides of the undercarriage have been cut in this manner, then both sides must have replacement plate bolted in as described.

•Two steel tube down bars, each side of the car, connecting the outer edge of the nerf rail to the lower chassis are mandatory and are made of 21.3mm tube with 3mm wall thickness.



•To increase protection to the driver's footwell it is required as a minimum to add a horizontal bar made of 20mm x 20mm (2mm wall thickness) to each side of the footwell to make an 'H'. It is required to fit an extra vertical upright on one side to achieve this, which has a minimum specification of 25mm x 25mm (2mm wall thickness).

•Alternatively, a 2mm thick steel plate can be attached both sides, to the inside of the footwell. This must cover the entire aperture and be bolted or welded in place. If the former, then it must be bolted on each side with a minimum M8 bolts.

•No aluminium rose joints.

•All cars (complete with race wing) must weight a minimum of 214kg at any time without the driver. The car must always achieve the minimum weight; the adding of fuel or any other liquids is not allowed to achieve this minimum weight.

•If a car is required to add additional steel to achieve the above, then this must be done by adding steel plate to the cab floor only. This must be securely welded in place (must not be removable) and must be mounted symmetrically in the car.

### **3. ENGINE & DRIVE GEAR**

•ALL new engines must be supplied direct from Barford Raceway. This is supplied fully sealed and de-governed. All engine seals must remain intact at all times.

•The only engine permitted for use is the electric start 7hp Lifan LF210E running either a 3/4" or 20mm shaft. The car must be able to self start at all times, otherwise it will not be permitted to race.

•The electric start Launtop LT210 or PD170 running either a 3/4", 19mm or 20mm shaft may be used, BUT must be dynode and sealed by Barford Raceway, with a chargeable fee of £95.

•Once the Launtop LT210 or PD170 engine is finished with, YOU MUST replaced it with a Lifan LF210E, purchased and sealed from Barford Raceway.

- If a seal is broken the engine must be re-dyno tested before it can race again at the owners expense. If you require a starter motor or coil pack to be changed you may replace it yourself but the engine maybe required being re-dyno tested at your expense.
- No modifications shall be permitted in any way whatsoever to any part of the engine or exhaust. This also prohibits the removal of the internal charging system.
- Engines may be removed for stripping at any time. If the engine appears to have been tampered with in any way the owner will have to stand the expense of the strip down and will be subject to disciplinary measures. All owners may carry out a basic service such as changing plug, oils & filters, valve springs and setting tappets, other than that, nothing may be done to alter or modify the engine in any way whatsoever unless it is specifically stated within these regulations.
- The only spark plugs permitted are the TORCH F6RTC, NGK BPR6ES or NGK BPR5ES which must not be modified in any way.
- The Emulsion Tube and Jet must remain as dyno tested.
- The only clutch permitted is a 10 tooth, 3/4" shaft dry centrifugal clutch. This must remain unaltered for example, no spring changes.
- The only pulley permitted is a 22 tooth pulley on both the engine and clutch shaft.
- The only rear sprocket permitted is the 62 teeth steel rear sprocket.
- No other ratio sprockets or clutches shall be permitted.
- A suitable steel or aluminium chain guard must be fitted. This must adequately cover the rear sprocket/chain. The scrutineers decision will be final in determining if the guard is sufficient.
- A 2000 8m drive belt is the only belt permitted for use.
- A drive belt tensioner maybe fitted, however if they are, their fitment must be sufficient not to work loose under load.
- An engine may be removed at any time in front of a Barford Raceway Official only, where the Barford Raceway F2 donor engine will be supplied, and has to be fitted for the following meeting, while yours is being checked. If all found to be legal, it will be swapped back over at the earliest convenience.
- The plastic air filter cover box must remain in place and must not have any additional holes. All air filters and covers must remain as standard type, bolted tightly and not offset in anyway.
- The rear axle must be solid steel, and drive must be provided to both rear wheels at all times. The rear axle must be covered (inside the car). The rear axle bearings maybe mounted on either the inside face or the outside face of the chassis. Relocating, slotting or enlarging rear axle bearing mounting points is not permitted. The rear axle must sit centrally and level in the car.

#### **4. ROLL CAGE**

•The rollcage and all supports from the chassis up must remain as originally fitted.

- All cars are required to have a steelside plate fitted in both cab sides between the tubular connecting bars. SEE PICTURE FOR AREA CIRCLED. These must be constructed from steel plate no less than 1.2mm thick and welded on both the vertical sides and the top.
- Furthermore a steel plate minimum of 1.2mm thick must be welded on all sides into the back of the lower half of the cab. This must occupy the full width between the two vertical roll cage pillars, the horizontal cross member and the chassis.



- The roof plate thickness must be a minimum of 1.6mm and must remain as manufactured, being welded on all four sides.
- Older cars are required to add either an additional centre roll cage pillar in the area behind the driver's seat (33mm tube x 3mm wall thickness) or two rollcage braces (min 26.9mm tube x 2.5mm wall). It is also acceptable to mount a steel plate to the roll cage (minimum thickness 3mm) to prevent direct contact with driver's seat on a rear impact.

## **5. ROOF WING**

•All cars must run a top mounted roof wing, as noted below:

“F2” Style wing

Standard folded wing.

Tilting shale wing

•All wings must be mounted (and fixed securely at all times) over the cab and centrally on the car, so that it does not sit more over one side of the cab than the other. No extended roof brackets are permitted; the wing must be mounted as original manufacture, which is a maximum height bracket of 70mm from rollcage for a standard folded wing, and 120mm for an F2 type wing.

•Wings are not permitted to sit lower than any part of the rollcage.

•All wings MUST cover 95% of the roof plate. If any wing is deemed not to be fitted as per manufacture, the Scrutineer’s decision will be final.

•The wing must have no more than two side plates and one centre section. No double decked or extra centre sections permitted or slanting of side panels.

•Shale wings are permitted on Shale or Tarmac.

## **6. WHEELS & TYRES**

•The only tyre permitted for use is the Redwing Fairway 24, 18 x 8.50-8 as supplied by Barford Raceway. You may also purchase your own tyres as long as they are the same as above.

•All tyres must have visible lines of tread across the whole width of the tyre a minimum of 2mm deep.

•Balancing of wheels, and wheel weights are not permitted.

•All identification marks must remain on tyres. No tyre flaps allowed. Buffing of tyres is not allowed. Tyre softener is not allowed.

•Any tyre suspected of being buffed will be confiscated, and disciplinary action may follow.

•Tyres must only be filled with air (no nitrogen) and must not be re-grooved.

•The only wheel rim permitted is the steel rim and this MUST remain unmodified. No wheel spacers permitted.

•All wheel nuts must be in place for racing.

•Steel wheel guards protecting both rear wheels, as fitted as standard are compulsory. Both rear wheel guards must be present at all times and bolted at both ends and securely fixed tight. No aluminium wheel guards permitted.

•The wheel guard must not protrude more than 420mm from the chassis rail.

## **7. SUSPENSION & STEERING**

•Steering components may be fabricated.

•Steering mounting points must not be altered in any way.

•No offsetting/tilting of suspension is permitted beyond that which is allowed via adjustment of the rose joints and mounting bolt. All suspension components must remain symmetrical on the car e.g. the rear axle must be mounted centrally in the car on a horizontal plane.

•The steering column only may be modified or repositioned to suit the driver, but must remain in a central position. You may fit a spline or an additional UJ. Quick release steering wheels are permitted.

## **8. FUEL SYSTEM & FUEL**

•The only tank permitted is the one supplied by the manufacture with the engine. The original screw type filler cap tanks are permitted to still be used if fitted originally on the car.

•A full and complete firewall as supplied with the car must be in place at all times.

•Only roadside fuel maybe used. Note: no fuel additives of any type are permitted. Random fuel samples will be taken.

## **9. BATTERIES & ELECTRICAL**

- An electrical cut off switch or key must be located within reach of the driver on the dash and must be marked on/off with an Isolator Sticker or sign writing. This must be in full working order and all times
- Batteries must be securely clamped and bolted in place under the bonnet and need to be covered with an isolated material i.e. rubber. Should the battery be located in the driver footwell it must be completely enclosed.
- Batteries must be fully charged and in full working order at all times.
- Gel type batteries are permitted.

## **10. BRAKES**

- The braking system must remain as fitted, in full working order with NO modifications whatsoever permitted. Single steel disc on the rear only is permitted—these maybe solid or drilled but no vented discs allowed.
- No floating discs permitted, they must remain fixed at all times. The application of any liquid on the disc is not permitted.
- You may alter the brake pedal to suit the driver, however all pedals must be on the right hand side. No left foot braking.
- It is only permitted with prior approval to move pedals forwards to facilitate greater leg room. If so a suitable firewall to the satisfaction of the scrutineer must be in place.

## **11. SEATS**

- A high back full race type seat must be fitted. It is highly recommended that the seat is fitted as per manufacturer's recommendations and that the seat mountings adequately hold the seat. Consideration should also be given to head clearance.
- The seat at shoulder level must be bolted (minimum M8 bolts) and fully supported by a tubular steel hoop/bar or bars to prevent any rearward collapse of the upper part of the seat, otherwise this restraint must be an integral part of the roll cage.
- It is also advised to bolt the very top of the seat to the rollcage.

## **12. SAFETY EQUIPMENT**

- All safety equipment must be of a minimum standard as directed.
- Visor or goggles are mandatory and must be worn at all times. Additional Roll offs/tear offs for shale are mandatory.
- Only one internal mirror maybe fitted, on the inside of the cab. Maximum 100mm x 100mm. No external mirrors.
- Race receivers must be worn at all times, including up to one hour before start time. Communication with a driver is only permitted via the Steward or Race Organiser.
- Race receivers are there to aid a driver, and drivers must still be aware of any on track incidents and not to depend solely on radio communication. It is the Team's responsibility to make sure they have suitable ear phones—"I couldn't hear" will not be an acceptable excuse. If a driver cannot clearly hear any radio communication they must retire to the infield.
- A minimum of 2kg dry powder Fire Extinguisher must be carried in your transporter and it must be at hand when refuelling.

## **13. TRANSPONDERS**

- Transponders are not needed in 2020.

## **14. NUMBERS**

- Numbers must be displayed on the outside of both roof wing side panels.
- Minimum size for numbers: 175mm high, in 40mm strokes.
- Official registered race numbers must be of a clearly visible professional appearance, painted black on a white background or white on a black background. Scrutineer's decision will be final.

## **15. EXHAUSTS**

- Exhaust must be as supplied by the manufacture. The exhaust must be on the outside of the car. (See picture)
- The exhaust muffler/silencer must be as standard / supplied with the engine. Should the silencer break away from the tube or split apart, you are permitted to weld this.
- The exhaust must be securely and tightly bolted to the engine at all times. If the exhaust is blowing it must be replaced or tightened up on the engine.



**Once you run the Lifan LF210E engine, the exhaust MUST be on the outside of the car.**

## **16. GENERAL RULES OF RACING**

- A responsible adult must be present at each race meeting with the driver. They must adhere to all rules enforced by the promotion and in that they must not be under influence of alcohol or other substances.
- The formula is strictly non-contact. Your driver will be warned if contact is made. If your driver is consistently being warned, then your driver maybe excluded from the meeting, and further action maybe taken.
- Should a driver be passed by cars either on their inside or outside, the driver being passed must hold the line they are on.
- Any driver giving thumbs down, will have to have permission from the meeting Steward or Race Director to continue racing for the remainder of the meeting.
- In car cameras are not permitted. This refers to any type of visual recording device, including phones and camera type goggles.
- There will be no trophies given out to winners, all racers are winners and will receive an award at the end of the meeting. No points, no roof grades and no championships. No flashing lights permitted.
- Grid groups will be determined by average position finished over the course of the season and ability. •Some events will have the starting positions within each grid group pre-drawn. Should these be drawn on the day, it is the parent/driver's responsibility to ensure that they attend the draw, otherwise the driver will be drawn at the rear of their group. In all cases race winners must start at the rear of their grid group for the remainder of the race meeting.
- Each grid group requires cars to be lined up two abreast, with cars lined up directly behind the car in front, either on the inside grid or outside grid. All races are clutch start including restarts.
- Should a parent or mechanic be invited onto the racing arena, they must be wearing overalls.
- For bookings to race events, you must booked in to every race meeting you intend to race at.

*If any Team is found in violation of the rules and regulations, a yellow card will be issued, which is a warning. If a 2nd yellow card is issued, this then becomes a red card, which is automatically a 1 meeting ban, or worse.*

