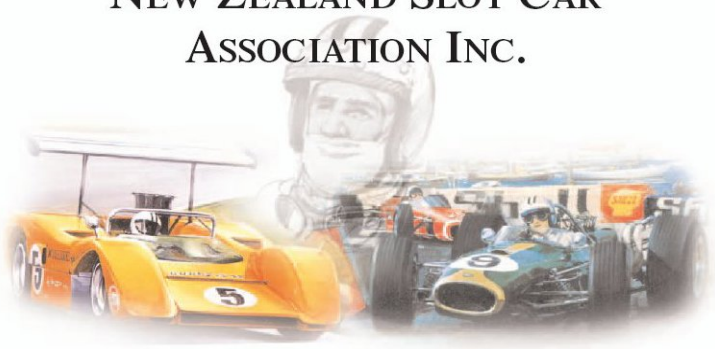
NEW ZEALAND SLOT CAR ASSOCIATION INC.



# 2013 1/24th Scale Rules.

**These rules to be read in conjunction with the General Rules.**

## Procedure:

### SCRUTINEERING

1. Prior to qualifying, cars will be presented for scrutineering with the body off, once the body has been attached and scrutineering is done, the car will be impounded in parc ferme.

2. At the completion of each race cars will be returned to parc ferme and may be re-scrutineered, this may involve motors being stripped down for inspection. Cars must remain in parc ferme until all placings have been confirmed.

3. Cars may be checked on the start line immediately before each race. A non compliant car will have to be corrected 'on the green light' during racing.

### QUALIFYING

4. Qualifying will be run using the SRT track control system. Each car will be placed on the track by the grid marshals prior to qualifying, then at the end of the qualifying time the car will be removed from the track and the grid marshals will return the car to parc ferme.

5. A driver will have a single run of not less than 1 minute on the designated lane. A drivers best single lap time posted within the qualifying period will determine the qualifying order. Ties will be broken firstly by the number of equal times a driver records, then by the next best time and so on, the drivers best three lap times will be recorded for qualifying. If a tie cannot be broken, the drivers involved will each have an additional qualifying run with their fastest lap determining their qualifying position relative to the other driver or drivers who were tied for position.

6. A competitor may qualify only one car in each class that they have entered.

7. A competitor whose car breaks down during qualifying will be given time to repair and have the car re-scrutineered at the discretion of the chief steward.

### RACING

8. Racing will be run using the SRT track control system. Races will be of 18 minutes duration – 3 minutes on each lane. Lane rotation will be the 1/24th scale system of moving 2 lanes at a time. Normal lane rotation is White – Orange – Yellow – Purple – Blue – Green

9. At the beginning of each race, cars will be placed on the grid by the grid marshals and racers will have two minutes to warm up, and may work on their cars during this time.

10. Interval between brackets will be 1 minute for lane change, with computer controlled power on after the 1 minute interval.

11. During the lane change interval competitors must move their controllers to the next lane, change lane stickers and move their cars to their next lane, replacing the car at the same relative position on the track.

12. At the end of each race, each car's partial lap position on the track will be recorded and cars will then be returned to parc ferme by the grid marshals.

## FORMAT OF FINALS

13. All races in all classes will be finals, no semis or round robins, the Chief Steward, which is appointed by NZSCA in consultation with the organising Clubs Race Controller/Organiser will determine the make up of the finals depending on the number of entries in each class.

    Every endeavour will be made to have equal numbers in each final with a maximum number of racers in the A Final.

    The decision of the Chief Steward is final.

13. Starting lane choice for finals is by order of qualifying time, the fastest qualifier in each final having first choice of lane.

## WORKING ON CARS DURING RACING

14. During the lane change interval racers may work on their cars at the track or in the pits, but it is up to them to replace their cars in the correct relative position on the track, and be ready to drive when the power comes on again.

15. If a racer is still working on their car when the track power comes on, the racer must take care to replace their car on the track in a position where it will not be a hazard to other cars. *[i.e. on a straight well away from the corner exit]*. A racer causing an accident by replacing their car in an unsafe position may be penalized by the deduction of laps.

## PROTESTS

16. Refer to Rule 'D' Protests in the 2012 NZSCA General Rules.

## TRACK CALLS

17. Track calls may be made in the event of unfair or dangerous situations. These are:

    - an un-marshalable car [e.g. under the bridge, or on the floor in a hard to reach place]
    - debris in the slot
    - riders [car in the wrong lane]
    - track problems including braid up, lap-counter failure, and power failure

18. In any of these events, a racer may call "track", and the race controller will immediately turn off the power without questioning the call.

19. During a track call, cars may be marshaled but racers may not commence work on cars. A racer who was working on his car prior to the track call may continue doing so

20. Decisions about what constitutes a real or spurious track call rest with the race controller. Repeated spurious calls may be penalized by the deduction of laps.

## BLACK FLAG

21. Any car may be black flagged by the Race Controller or Scrutineer, if it is deemed to be at risk of damaging the track or other cars.

## CONCOURS D'ÉLÉGANCE

22. Concours d'élégance, each entrant must enter one car from any class that they have entered for the meeting. Judging for Concours d'élégance will be carried out by every entrant, one vote per entrant before the start of the first qualifying of the meeting.

    Any car entered for concours must be qualified and raced in the exact state presented for concours.

    Concours d'élégance Judging – Cars shall be judged on the following categories. Body, Interior, Wheels, Chassis, Overall appearance.

    The winner of Concours d'élégance will be the entrant who gains the most votes, in the case of a tie then the entrants that have tied will be voted on again by all entrants until there is a winner.

# 2013 NZ 24th Scale - Car Specifications

Classes of cars covered by these specifications are:

- Flexi Falcon LMP
- Grand Prix JK Falcon
- Flexi S16D Saloon
- Flexi S16D GTP
- G12 Eurosport
- G12 Wing
- Open Eurosport

# GENERAL CAR SPECIFICATIONS

*these apply to all classes of cars unless variations are specified in individual class rules*

## 1. DIMENSIONS

**1.1 Width** - maximum width is 82.5mm *[3.25"]* excluding body pins. Wing Cars 83mm, see Rule 20.4

**1.2 Clearance** - minimum clearance is .6mm *[.025"]* under the rear axle and gear at the beginning of each race. **The gear may not protrude below the chassis**
*[The scrutineer's decision on width and clearance is final and any car deemed to be at risk of damaging the track during a race will be immediately black flagged]*

## 2. GUIDE FLAG

**2.1 One Guide** - only one guide flag allowed, with a blade not more than 27mm long, the guide must be black or made of graphite for lap counting purposes

**2.2 Spacers nut etc.** - guide nut, spacers, clips, lead-wire and earring backs are free

## 3. WHEELS

**3.1 Four visible wheels** - all cars must have a total of four visible wheels when viewed from the two sides, of not less than 12.5mm *[half an inch]* diameter when the body is attached in racing position *[Where class rules allow, front wheels may be stickers but must meet visibility requirements specified above]*

**3.2 Rear wheels & tires** - Rear tire width may not exceed 20.5mm *[.810"]*

**3.4 Tire Goop** – the use of any tire goop or glue on the rear tires is prohibited. *[Spray glue will be applied to the track from time to time as the race directors see fit].*

## 4. BODIES

**4.1 Body Classes**

(a) **GTP** – a high down force body with long side plates – can be an open or closed sports car. GTP refers to the class of bodies that are called GTP by USRA, and called Eurosport by BSCRA. Wedges and wing cars are specifically excluded. *[For the purposes of defining just how "ultimate" a GTP body may be and still be deemed a GTP, it must have no more side plates and down force than the Outisite Bentlee and Mercedes – i.e. that is as "ultimate" as you can run!]*

(b) **LMP** – a lower down force body with short side plates - can be an open or closed sport scar. LMP refers to the style of LMP and Daytona prototype bodies initially popularized by JK, and now called GT1 by USRA, and Group 12 by BSCRA.

(c) **Saloon** – VE Holden Commodore (#VE 24830) and the FG Ford Falcon (#FG 24660)

(d) **Grand Prix** –any Formula One or Indy Car body manufacture by JK Products.

**4.2 Body lists** – A body list is published for **Saloon, LMP, GTP, Grand Prix / Indy, G12 Eurosport and Open Eurosport**
In these racing classes only bodies on the body list may be used

**4.3 Height** – maximum body height including rear wing from track surface is 44mm *[1.75 inches]*

Except for Saloon bodies where the maximum spoiler lip height is 39mm *[1.55 inches] see rule 4.10 for saloon bodies*

**4.4 Paint** - bodies must be fully painted and sufficiently opaque so that no chassis or components can be seen through the body when viewed from above. Windscreens and windows must be left clear. A clear strip may separate the wing from the main body

**4.5 Interior** – all cars must have a 3D painted driver figure, and a sufficiently full interior so that no chassis or components can be seen through the windows

**4.6 Numbers** – all cars must have at least two readable numbers, of the same numeral, Grand Prix cars only need one number.

**4.7 Wheel arches** – front wheel arches must be clear, or cut to at least the horizontal centerline of the front wheels. Trimming for front or rear wheel clearance may not extend into the top surface of the body

**4.8 Cover chassis** - The chassis and guide must be completely covered by the body when viewed from above – the only exception to this is front suspension arms and lead wires for Formula One cars

**4.9 Trimming & cut outs** - Body shape is to remain as manufactured except for the necessary cutouts to clear axles and wheels

The front of the body may not be cut so high as to lose the shape and detail of the front

Cutting out the rear of the body is OK on GTP, LMP and Formula One cars

No other cut outs are allowed except areas normally cut out on full size race cars, *[e.g. air intakes]*

**4.10 Saloon Bodies** – The saloons, VE Holden Commodore (#VE 24830) and the FG Ford Falcon (#FG 24660) are molded with cut lines, the bodies must be cut to these lines which will give the correct height for the front air dam and rear bumper when mounted onto chassis. Cutting to the cut lines will result in the line at the base of both the front and rear side doors, being at least 1mm above the lower edge of the body on both sides of the car.

**4.11 Body Mounting** – Bodies may be fixed to the chassis by any combination of tape, clips or pin tubes. Where pin tubes are used they must be located in the existing body fixing chassis holes

**4.12 Bodies,** the Executive Committee of the New Zealand Slot Car Association Inc. must publish a list of eligible, Saloon, LMP, GTP, F1/Indy, Gp12 Eurosport and Open Eurosport Bodies by the 1st January each year.

The eligible lists will be compiled in consultation with financial Member Clubs and approved by the NZSCA Committee.

Any bodies that Member Clubs want considered to be added or removed from the approved lists must be submitted to the NZSCA Committee Secretary no later than 1st December each year.

**Saloon:**

| **Body:** | **Manufacture:** | **Part No:** | |
|---|---|---|---|
| VE Commodore | Hobbies Plus | VE 24830A | 0.007" |
| VE Commodore | Hobbies Plus | VE 24830B | 0.010" |
| | | | |
| FG Falcon | Hobbies Plus | FG 24660A | 0.007" |
| FG Falcon | Hobbies Plus | FG 24660B | 0.010" |

**LMP:**

| **Body:** | **Manufacture:** | **Part No:** | |
|---|---|---|---|
| Toyota GT1 | JK Products | JK7176 | |
| Bentley 03 | JK Products | JK7207 | |
| Multimatic Focus | JK Products | JK7230 | 2004 Daytona Series |
| Crawford | JK Products | JK7231 | 2004 Daytona Series |
| Picchio DP2 | JK Products | JK7232 | 2004 Daytona Series |
| Riley Mk x 2 | JK Products | JK7233 | 2004 Daytona Series |
| Doren JE4 | JK Products | JK7234 | 2004 Daytona Series |
| Chase | JK Products | JK7235 | 2004 Daytona Series |
| Fabcar | JK Products | JK7236 | 2004 Daytona Series |
| Toyota 010 GT LMP | Hobbies Plus | HP2011 | |

**GTP:**

| Body: | Manufacture: | Part No: | |
|---|---|---|---|
| Caddy WSC | Parma | 70525 | |
| Caddy HD | Parma | 70526 | |
| Lola WSC | Parma | 70514 | |
| Lola HD | Parma | 70524 | |
| Peugeot Open Cockpit | JK Products | JK70701A | |
| Cadillac | OS | OS.067 | |
| Mercedes | OS | OS.066 | |
| Bentlee | OS | OS.069 | |

**F1/Indy**

| Body: | Manufacture: | Part No: | |
|---|---|---|---|
| JRL Indy | JK Products | JK6101D | |
| F1 Ferrari | JK Products | JK6104 | JK71 Painted |
| F1 McLaren | JK | JK6105 | JK72 Painted |
| F1 Jaguar | JK | JK6107 | JK74 Painted |
| F1 Williams | JK | JK6108 | JK73 Painted |
| IRL G-Force | JK | JK6118 | |
| IRL Dalara | JK | JK6119 | |
| IRL Dalara 06 | JK | JK61181 | |
| JRL Indy W (New rear wing) | JK | JK61011 | |
| Champ Car (CH7 Chassis) | JK | JK61192 | |
| Lola Champ Car (CH7 Chassis) | JK | JK61152 | JK75 Painted |
| McLaren F1 MP4-25 | Hobbies Plus | HP24601 | |

**Gp12 Eurosport / Open Eurosport**

| Body: | Manufacture: | Part No: |
|---|---|---|
| Caddy WSC | Parma | 70525 |
| Caddy HD | Parma | 70526 |
| Lola WSC | Parma | 70514 |
| Lola HD | Parma | 70524 |
| Peugeot Open Cockpit | JK | 70701A |
| Cadillac | OS | OS.067 |
| Mercedes | OS | OS.066 |
| Bentlee | OS | OS.069 |

| | | |
|---|---|---|
| BMW LMR | BPA | K021 |
| Toyota GT One | BPA | K025 |
| BMW LM | BPA | K035 |
| BMW LME | BPA | K028 |
| Toyota GT One GB | BPA | K033 |
| Bentley WR | BPA | K043 |
| Bentley EXP GB | BPA | K044 |
| Lola GB | BPA | K049 |
| Cadillac LMR 02 | BPA | K052 |
| Porsche | BPA | K055 |
| UOP Shadow | BPA | K066 |
| Lola Judd LMP1 | BPA | K075 |

# CLASS RULES

# Flexi Falcon LMP

## 5. CHASSIS

**5.1 Type** - Champion Turbo Flex chassis only – standard and light weight pans allowed

**5.2 Blueprinting** – chassis may be flattened and straightened, wheel towers straightened to ninety degrees, guide tongue leveled and doubled, rear bearing holes filed out to enable rear axle to be set level and at ninety degrees to direction of movement, sharp edges rounded to avoid track damage, and chassis assembled to allow pans to move freely

**5.3 Motor mounting** - may enlarge motor bracket holes to clear the motor bushing, but the full bracket outline must remain. May solder motor in place, and brace it to the chassis

**5.4 Bracing** - may add bracing to support the rear axle uprights

**5.5 Rear axle bushings** – oilites or brass only, may solder or glue axle bushings into place

**5.6 Gears** – any 48 or 64 pitch gears allowed

**5.7 Tape & weight** - may apply tape to the chassis and add lead weight

**5.8 Front wheels** – must have two front wheels that rotate on the axle and, when chassis rocked, will contact the track before the chassis grounds

**5.9 Front axle** - may solder front axle to front wheel towers

**5.10 May not** - alter chassis movement or remove chassis material, except as specified above *[the original manufacturers method of joining the chassis pieces together and articulating their movement must be retained]*

## 6. MOTOR: Falcon

| | | | |
|---|---|---|---|
| **1.** JK Products Falcon, | Part No: | JK3020<br>JK30202 JKIV<br>JK30205 JKV<br>JK30207 JKVII | |
| **2.** Top Line Inc. (tsrf) | Part No: | On Packaging,<br>On pinion end of can,<br>Label on motor, | ATCD302 Falcon 7 Racing Motor<br>TSF F7<br>tsr<br>Falcon7 |
| | Part No: | On Packaging,<br>On pinion end of can,<br>Label on motor, | ACD301 Falcon 7 Racing Motor<br>TSF F7<br>tsr<br>Falcon7 |

**3.** No modifications permitted, except the shaft on the pinion end may be shortened to clear the tire.
The motor must remain sealed as manufactured.
The can must **not** be notched to clear the rear axle.

## 7. BODIES

**7.1 Body types**

For the Falcon LMP, any body included on the Falcon LMP section, Rule 4.12 Bodies.

# Grand Prix JK Falcon

## 8. CHASSIS

**8.1 Type** – JK 4" Indy F1 Cheetah 7 chassis kit Part No JK25117

**8.2 Blueprinting** – chassis may be flattened and straightened, wheel towers straightened to ninety degrees, guide tongue leveled and doubled, rear bearing holes filed out to enable rear axle to be set level and at ninety degrees to direction of movement, sharp edges rounded to avoid track damage, and chassis assembled to allow pans to move freely

**8.3 Motor mounting** - may solder motor in place, and brace it to the chassis.

**8.4 Bracing** - may add bracing to support the rear axle uprights.

**8.5 Rear and Front axle bushings** – oilites or brass only, may solder or glue axle bushings into place

**8.6 Gears** – any 48 or 64 pitch gears allowed

**8.7 Tape & weight** - may apply tape to the chassis and add lead weight

**8.8 Front wheels** – must have two front wheels, JK F1/Indy Plastic Rim Part No JK8745PF, width min 9mm, maybe ground down in diameter to allow front ride height adjustment, may rotate independently of each other, must support chassis and touch and roll.

**8.9 Front axle** – one piece straight solid 3/32" diameter, may solder front axle bushes to front wheel towers

**8.10 May not** - alter chassis movement or remove chassis material, except as specified above *[the original manufacturers method of joining the chassis pieces together and articulating their movement must be retained]*

**8.11 Front Axle Height** – the minimum distance from the top of the front 3/32" diameter axle and the under side of the chassis shall be 9.45mm minimum.

**8.12 Front Wheels/Axle –** When the front wheels are extended against the outer axle wheel retainers, the overall width must not be greater than 82.5mm, and the front axle may not float sideways by any more than 0.5mm.

## 9. MOTOR: Falcon

| | | | |
|---|---|---|---|
| **1.** JK Products Falcon, | Part No: | JK3020<br>JK30202 JKIV<br>JK30205 JKV<br>JK30207 JKVII | |
| **2.** Top Line Inc. (tsrf) | Part No: | On Packaging,<br>On pinion end of can,<br>Label on motor, | ATCD302 Falcon 7 Racing Motor<br>TSF F7<br>tsr<br>Falcon7 |
| | Part No: | On Packaging,<br>On pinion end of can,<br>Label on motor, | ACD301 Falcon 7 Racing Motor<br>TSF F7<br>tsr<br>Falcon7 |

**3.** No modifications permitted, except the shaft on the pinion end may be shortened to clear the tire.
The motor must remain sealed as manufactured.
The can must **not** be notched to clear the rear axle.

## 10. BODIES

**10.1 Body,** JK or HP 4" F1/Indy bodies as listed in Rule 4.12 Bodies.

# Flexi S16D
## (note there will be two Flexi S16D classes raced, Saloon and GTP)

### 11. CHASSIS - As for Flexi Falcon LMP EXCEPT:

**11.1 Type** - Champion Turbo Flex chassis only – standard and light weight pans allowed

**11.2 Front Wheels** – front wheels and front axle are optional, must use realistic looking stickers if front wheels not used.

**11.3 Gears** – Free

### 12. MOTOR

**12.1 Set ups** – Parma, Slotworks, RJR, Fastones, Camen, Red Fox and Proslot S16D cans and magnets permitted. Any S16D end bell permitted.

**12.2 Armatures** – Only standard PARMA S16D arms [the original Chinese arms] or tagged PRO-SLOT S16D arms, [part PS700] permitted. Tag must read S16D, [60 turns of #28 AWG per pole]. Any armature timing is allowed.

**12.3 Blueprinting** – motor may be blueprinted. Super glue may be used to secure magnets but magnets may not be shimmed with tape or any shim stock. Magnets may not be honed

**12.4 Motor grooving** – may groove the motor can and magnet to achieve axle clearance

**12.5 Brushes & springs** – brushes & springs may be changed. Brushes cannot be timed, drilled, friction cut or fitted with shunts. Brush hoods must remain standard & in the standard horizontal position

**12.6 Motor Bearings** – the can may be drilled to allow the fitting of a replacement bearing. Any oilite may be fitted to the end bell as long as the end bell is not modified. Can end ball bearings are permitted.

**12.7 Spacers** – spacers may be added to limit armature endplay.

**12.8 No other motor modifications are allowed**

### 13. BODIES

**13.1 Body types**

For the S16D Saloon, any body included on the S16D Saloon section, Rule 4.12 Bodies.

For the S16D GTP, any body included on the S16D GTP section, Rule 4.12 Bodies.

# G12 Eurosport

## 14. CHASSIS

**14.1 Type** - Any

**14.2 Axle Bearings** – Free

**14.3 Gears –** Free

**14.4 Front Wheels** – front wheels are optional, but must use realistic looking stickers if front wheels not used.

## 15. MOTOR

**15.1 Set ups** - Any commercially available BOW, Cahoza, Camen, Champion (Force or Xterminator), Kamen, Kelly, Koford, Mura, Proslot, RJR, TWP, Red Fox or Viper full size 'C' can set up is allowed *(no strap cans)*

**15.2 Armature** – Any production tagged Group 12 or Group 15 Armature with a minimum of 50 series wound turns of 29 gauge (AWG) wire may be used. Minimum Armature diameter is 0.500"

**15.3 Endbell** – 'C' can endbell only may be used – no aluminium endbells. Endbell hardware, screws, and endbell to can mounting screws may be added or substituted, but the endbell may not be modified in any other way

**15.4 Can** – can material may not be removed except the can and magnet may be grooved or notched to achieve axle clearance, and plating or paint may be removed to facilitate soldering. No other can modifications are allowed

**15.5 Magnets** – Any full can height, single piece ceramic magnets may be used. No quads or multi segment magnets allowed except Proslot SMQ

**15.6 Blueprinting** – can may be straightened, bearing hole centered, magnets honed, & armature spacers used

**15.7 Bearings** – Oilite type bushings or ball bearings are allowed and these may be soldered or glued in place

**15.8 Brushes and springs** – Any brushes and springs may be used, and heat sinks, buss bars, shunt wire and spring insulation may be used

## 16. BODIES

**13.1 Type** - Any Body include on the S16D GTP or Gp12 Eurosport/Open Eurosport section, Rule 4.12 Bodies.

# G12 Wing

## 17. SPECIFICATIONS

**17.1** General car specifications apply except 1.1, 3.1, 4.3 and 4.5 *(width, Wheels, height and interior)*

Front wheels are not required on Wing Cars.

## 18. CHASSIS

**18.1 Type** - Any laser cut, EDM or home built chassis allowed

**18.2 Axle Bearings** – Free

**18.3 Gears** - Free

## 19. MOTOR – as for G12 Euro

## 20. BODIES

**20.1 Type** – Any commercially available "wing car" body

**20.2 Air Control Devices** - No part may exceed 63.5mm in height, measured from the racing surface.

**20.3 Side Dams** - May be a maximum of 63.5mm high aft of the rear wheel centerline and continue on a taper making them a maximum of 51mm high at a point 93.5mm forward of the rear wheel centerline. The same taper must continue ahead of the front wheels.
Must have the front edges taped and rounded in a manner suitable to avoid injury to race participants and spectators.
Must be transparent, although suitable markings and decals may be affixed.

**20.4 Width** - Maximum over all width excluding body pins, but including side dams must not exceed 83mm when car is at rest.

**20.5 Diaplanes** - Maximum length is 12.7mm

**20.6 Drivers** - Wing car drivers are permitted: drivers may be flat but with the outline of the driver embossed and must look realistic

**20.7 Rear Spoiler** - Must be transparent, although suitable markings and decals may be affixed

# Open Eurosport

## 21. SPECIFICATIONS - General car specifications apply except rule 3.2

## 21. CHASSIS

**21.1 Type** - Any

**21.2 Axle Bearings** – Free

**21.3 Gears** – Free

**21.4 Wheels and Tyres -** 1/2" minimum diameter front wheels made from any material. Rear wheels a max width of .900".

**22.5 Front Wheels** – front wheels are optional, but must use realistic looking stickers if front wheels not used.

## 22. MOTOR - Strap

## 23. BODIES – Any Body include on the S16D GTP or Gp12 Eurosport/Open Eurosport section, Rule 4.12 Bodies.