NEW ZEALAND SLOT CAR ASSOCIATION INC.

2010 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 SEMIS AND FINALS

13. If there are six or less entries in a class, all racers will make the final, if there are seven entries, all racers will make a round robin final.

14. If there are more than seven entries in a class, the race controller will determine a suitable number of semi finals to be run, with the aim of having a reasonably equal number of racers in each semi and minimising the number of semis. *[For example if there are 12 entries: two semis of six racers each - 13 entries: a six racer semi and a seven racer round robin semi, 14 entries: two seven racer round robin semis – 15 entries: three five racer semis… etc]*

    Gp12 Wing, Gp12 Euro and Open Eurosport race will all be run as finals, no semis.

    If there is 14 or less entries in the Flexi Falcon LMP, Grand Prix JK Falcon, Flexi S16D Saloon and Flexi S16D GTP class's there will be semis and a final, if there is 15 or more entries in these class's then all races will be run as finals, no semis.

15. Starting lane choice for semis is by order of qualifying time.

16. The six fastest drivers (based on distance covered) from the semis will qualify for the final and starting lane choice for finals will be by order of distance covered in the semis.

WORKING ON CARS DURING RACING

17. Between the semis and a final, finalists will have ten minutes to work on their cars before the commencement of the final. ***(Note that a car that fails start line scrutineering may only be fixed during racing)***

18. 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.

19. 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. *[ie 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

20. Refer to Rule 'D' Protests in the 2008 NZSCA General Rules.

TRACK CALLS

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

    - an un-marshalable car [eg 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

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

23. 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

24. 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

25. 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.

2010 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

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 25mm 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"]*

3.3 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 downforce body with long sideplates – can be an open or closed sportscar. 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 sideplates and downforce than the Outisite Bentlee and Mercedes – ie that is as "ultimate" as you can run!]*

(b) **LMP** – a lower downforce body with short sideplates - can be an open or closed sportscar. 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

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, *[eg 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.

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 24830
FG Falcon	Hobbies Plus	FG 24660

LMP:

Body:	**Manufacture:**	**Part No:**
Toyota GT1	JK	JK7176
Bentley 03	JK	JK7207
2004 Daytona Series	JK	JK7230-JK7236
Toyota 010 GT LMP	Hobbies Plus	HP2011
Dome GT1	Parma	1048
Toyota 010	Parma	70521

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	70701A
Cadillac	OS	OS.067
Mercedes	OS	OS.066
Bentlee	OS	OS.069

F1/Indy

Body:	Manufacture:	Part No:	
JRL Indy	JK	JK6101D	
F1 Ferrari	JK	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

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
All BPA Bodies	BPA	BPA

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

6.1 Type – JK Falcon only. No modifications permitted, must remain sealed

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 – 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]*

9. MOTOR

6.1 Type – JK Falcon only. No modifications permitted, must remain sealed

10. BODIES

7.1 Body, JK 4" F1/Indy bodies only as manufactured by JK Products, 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 and Proslot FX S16D cans and magnets permitted. Any S16D end bell permitted. *[This rule specifically excludes new S16D setups like Red Fox and Camen, these may be evaluated for inclusion in the future]*

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. *[This rule specifically excludes big bruiser arms and narrow crown arms like the RJR/Viper, these may be evaluated for inclusion in the future]*

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

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. MOTOR - Strap

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