



## 1.0 GENERAL PRESCRIPTIONS RELATIVE TO THIS SCHEDULE

- 1.1** This Schedule shall be read in conjunction with the MotorSport NZ safety schedule as detailed in Appendix Two, Schedule A of the current MotorSport Manual.
- 1.2** Text changes (to the previously issued Schedule) shall be highlighted such, although text changes for grammatical and formatting reasons will not be highlighted.
- 1.3** MotorSport New Zealand is responsible for the control of the Best Bars Toyota 86 Championship Technical Regulations and their interpretations. All enquiries relative to these regulations shall be directed to the personnel detailed under Article 1.10 below.
- 1.4** All cars entering competitions to which this Schedule applies shall have a valid MSNZ logbook.
- 1.5** All TR 86 race cars shall be originally sourced through Toyota New Zealand and only these racecars (as prepared and supplied by Toyota New Zealand) are eligible to compete in the Best Bars Toyota 86 Championship.
- 1.6** These regulations define the specific modifications performed to the Series Production Toyota 86 model by Toyota New Zealand to create the TR 86 race car and additionally define the only permissible changes to this specification that may be performed by the Competitor.
- 1.7** The TR 86 race car shall at all times, whilst in attendance at a round of the Best Bars Toyota 86 Championship, correspond in all aspects with these regulations as defined hereinafter. Hence, any modification to the racecar, not specifically detailed within this Schedule, or subsequent amendments to this Schedule as issued by MotorSport NZ, are expressly forbidden.
- 1.8** All OE replacement parts and control parts shall be purchased from a Toyota New Zealand store, Toyota New Zealand or their appointed trackside agent.
- 1.9** All parts shall remain standard, hence any processing and/or changing of parts, mechanically, thermally or chemically, is strictly prohibited. Only work necessary for the car's normal servicing, and/or for the replacement of parts worn through use or accident is authorised.
- 1.10** **TECHNICAL ELIGIBILITY AND SAFETY EQUIPMENT ENQUIRY:** Where any doubt may exist in understanding any regulation contained within this Schedule it will be understood that it is the Competitors obligation to enquire as to the correct interpretation. All technical eligibility and/or safety equipment enquiry shall be submitted in writing to:

<p>Toyota 86 Championship Technical Manager Bruce Airey 027 231 3961 bruce.airey@toyotaracing.co.nz</p>	<p>Championship Scrutineer Terry Carkeek +64 21 378 446 terry@motorpsort.org.nz</p>
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- All enquiries should detail the article in question and the specific subject matter.
- A written reply will always be given to a written enquiry.
- On matters of technical eligibility and/or safety compliance, a verbal statement will have no validity.

## 2.0 DEFINITIONS

2.1 Definition of terms used within this Schedule shall be referenced from the National Sporting Code, Appendix Two Schedule A and as detailed below:

**'Aftermarket'**: means a catalogued, off the shelf component sourced from another manufacturer to that of the original car, which may be fitted without making modification to the original car.

**'Control Part'**: means a specific part intended for use on the TR 86 race car that is fully controlled in respect of its specification, application and supply, and where specified shall be fitted.

**'Free' (part)**: means that the original part as well as its function may be removed or replaced with a new part on condition that the new part has no additional function relative to the original part.

**'Normal Servicing'**: means work performed whereby systems and/or parts of the race car are restored to their same working order and to the same standard as when the systems and/or parts were new.

**'OE'**: means the 'original equipment' parts as fitted/supplied by Toyota to the model RC (model and year specific).

**'Original'**: means the component parts of the series production 86RC model as originally fitted by Toyota at the time of manufacturer and includes all devices, equipment, accessories and/or components as fitted to the production model represented.

**'Race Trim'**: means the condition in which the car competes, and shall include all fluids, the driver including all safety apparel and any ballast required to maintain weight compliance.

**'Racing Weight'**: means the minimum weight of the racecar including the driver being the complete weight of the competing car in 'race trim' (which includes the driver and any ballast necessary to respect this weight).

**'Schedule A'**: means the 'Driver and Vehicle Safety' requirements as detailed in Appendix Two Schedule A of the MotorSport New Zealand Manual.

**'Technical Manual'**: means the Toyota NZ technical data/specification manual for the Toyota model 86 which can be viewed at any Toyota Store or on request by contacting the Series Technical Manager or Championship Scrutineer.

**'Toyota 86 RC'**: means the Series Production Toyota 86 model RC as supplied by Toyota NZ.

**'Standard'**: means the original specification as detailed in the Toyota Technical Manual for the Toyota 86 model RC.

### 3.0 COMPETITOR / ENTRANT RESPONSIBILITY

- 3.1** TR 86 race cars shall be entered only in a technically correct condition. They must fully correspond with these technical regulations and in all respects the safety regulations as detailed in this schedule or Appendix Two Schedule A of the current MotorSport Manual.
- 3.2** Competitors / Entrants are obligated to make their race car available for any technical eligibility and safety inspections, as and when requested, by the appointed Series Scrutineer or MSNZ Technical Officer. The Competitor / Entrant shall present their race car and safety apparel for any pre-event safety audits. The race car shall be presented as it will be used in the competition and shall correspond to these technical regulations in all respects. The MSNZ logbook will be required to be submitted to the Series Scrutineer at this time.
- 3.3** Competition preparation and care of the TR 86 race car shall be done exclusively by the Competitor / Entrant. This includes all maintenance and race damage repair work which shall be performed, at all times, in accordance with and in the spirit of these technical regulations. (Excludes items sealed with MSNZ seal)
- 3.4** It is the Competitor / Entrants sole responsibility to ensure that only Toyota OE parts and/or Toyota Racing Control Parts are fitted to the race car and are used in accordance with these technical regulations.
- 3.5** A high level of vehicle presentation including any necessary bodywork repairs is expected when entered in rounds of the Series.

### 4.0 OFFICIAL (SERIES) SEALS and SEALING REQUIREMENTS

- 4.1** Refer Schedule CH Article 29 for Championship information although the definitive text regarding official seals is detailed under Appendix Two Schedule A, Article 3.7 of the current MotorSport Manual.
- 4.2** It is a requirement of this schedule that Category C seals be affixed by the appointed Series Scrutineer to the specified assemblies as detailed below.
- 4.3** Category C seals shall be applied to the following assemblies:
- Engine - wire seal through bolt on the front cover
  - Gearbox - wire seal through bolt on the tail-shaft cover
  - Final drive - wire seal through bolt/s on the rear cover
  - ECU - wire seal around ECU plug and the ECU case
- 4.4** It is the Competitors' responsibility to ensure that these seals remain intact for the duration of their application period (as detailed in the MSNZ vehicle logbook).
- 4.5** Permission must be sought prior to removing (breaking) any of the seals detailed above for whatever reason. Refer Schedule CH.

### 5.0 SAFETY EQUIPMENT REQUIREMENTS

- 5.1** The TR 86 race car is fitted with the following vehicle safety equipment by Toyota New Zealand which shall be maintained and serviced as per Schedule A requirements;

**5.1.1** A MotorSport NZ **type approved safety cage**. A certificate for this safety cage must be contained in the vehicle logbook.

**Protective padding** in compliance with FIA Std 8857-2001 or Schedule A shall be installed/maintained within the defined head-space area – refer Schedule A Part One 4.6(6) and diagram 4.6(6).

**5.1.2** A **safety harness** compliant to FIA Standard 8853/98 (5-strap or 6-strap) for the driver as well as for the passenger seating position.

**5.1.3** A **competition seat** compliant to FIA Standard 8855/99 for the driver as well as for the passenger seating position.

**5.1.4** A hand-held **fire extinguisher** of 2kg capacity mounted in compliance with Schedule A.

**5.1.5** An **external ignition / circuit breaker switch** located on the right-hand side near the bottom of the front windscreen (that breaks all electrical circuits that keep the engine running). It shall be identified by the standardised marking as detailed in Schedule A - diagram 5.4(1).

**5.1.6** The **TR 86 window net** is compulsory.

## 6.0 RACING WEIGHT

**6.1** For all TR 86 race cars the minimum 'racing weight' of the racecar in 'race trim' shall be **1260kg**.

**6.2** The racing weight may be measured at any time during the qualifying sessions and/or races, on the official scales of the meeting.

**6.3** To achieve the minimum racing weight it is permitted to remove the passenger's seat and belts.

**6.4** The only forms of ballast permitted are the ballast (and location) specified in Article 10.5 below, and/or fuel which can be added to respect the minimum racing weight.

## 7.0 TELEMETRY

**7.1** All forms of data transmission from the competing car is forbidden, excluding two-way voice communication between the driver and the pit-based team.

**7.2** Impulse generators giving information on timing are authorised, provided they are separate parts that have no connection with the controls of the car.

## 8.0 TR 86 RACECAR SPECIFICATION

The TR 86 race car is based upon the Toyota 86 model RC with the following modifications / parts installed by Toyota Racing NZ.

All of the following parts are designated as 'control parts' meaning they are fully controlled in respect of their specification, application and supply;

**8.1 Vehicle safety equipment:** as specified under Article 5.0 of this Schedule

Control Part	Description	TNZ Part Number
SAF001	Safety cage	TR86Cage
SAF002	Safety harness	TR86Belt
SAF003	Competition seat	TR86Seat
SAF004	Seat rails assembly (pair)	TR86SeatRail
SAF005	Fire extinguisher	TR86FireBottle
SAF006	Ignition / Circuit breaker system	CARBK05R/ TR86ISOKIT
SAF007	Driver window net	TR86Net

**8.2 Bodyshell and interior:**

Control Part	Description	TNZ Part Number
INT001	Carbon Door panels RH	TR86DoorCR
INT002	Carbon Door panels LH	TR86DoorCL
INT003	Steering wheel	TR86SWheel
INT004	Steering wheel boss	TR86SWB
INT005	Steering wheel coupling	TR86SWC
INT006	Driver Foot plate assembly	TR86FootP
INT007	Throttle Pedal Stop	TR86TStop
INT004	Ballast Plate – 5kg (yellow)	TR86BALLAST5
INT008	Ballast Plate – 10kg (red)	TR86BALLAST10

**8.3 Engine/ Fluids:**

Control Part	Description	TNZ Part Number
ENG001	TR 86 Oil Breather Assembly	TR86OilB
ENG002	TR 86 Exhaust System	TR86Exhaust
ENG003	TR 86 Baffled Sump and Pick up Modification	TR86SumpM
ENG004	TR 86 Fuel sample valve set	TR86FSValve
ENG005	The OE Inlet tube and air filter box shall remain standard with the exception of 4 blanking plugs fitted as supplied for TR 86.	TR86plugs
ENG006	Oil Cooler Assembly	TR86OilC
ENG010	TR86 Flywheel	TR86EFly
ENG011	Castrol Edge 0w-40 A3/B4 Engine Oil	TR86EngOil5l
ENG012	Castrol Syntrox 80w-140 Diff Oil	TR86DiffOil
ENG013	Castrol Syntrox Universal Plus 75w-90 Gear Oil	TR86GearOil1l

#### 8.4 Transmission – Drivetrain:

	Description	TNZ Part Number
TMS001	Torsen LSD	4130153020
TMS003	Diff pinon solid spacer	TR86DIFFSS
TMS004	TR86ClutchKit (pressure plate and clutch plate only)	TR86Clutchk

#### 8.5 Suspension:

Control Part	Description	TNZ Part Number
SUS001	MCA front shock kit RH	MCASHKKITRF
SUS002	MCA front shock kit LH	MCASHKKITLF
SUS003	MCA rear shock kit	MCASHKKITR
SUS007	Sway bar front (assembly)	TR86SBF
SUS008	Sway bar rear (assembly)	TR86SBR
	Hardrace Rear Lower Camber Arm	TR86LOWERARM
	Hardrace Rear Toe Arm	TR86ARM

#### 8.6 Brakes:

Control Part	Description	TNZ Part Number
BRK001	Alcon Front Brake Kit LH	TR86BrakeFL
BRK002	Alcon front brake kit RH	TR86BrakeFR
BRK003	Front Brake Calliper Left	TR86BrakeFCL
BRK004	Front Brake Calliper Right	TR86BrakeFCR
BRK005	Front Brake Disk Assy Left	TR86BrakeFDAL
BRK006	Front Brake Disk Assy Right	TR86BrakeFDAR
BRK007	Front Brake Calliper Bracket Left	TR86BrakeFCBL
BRK008	Front Brake Calliper Bracket Right	TR86BrakeFCBR
BRK009	Front Brake Hose Kit Left	TR86BrakeFHL
BRK0010	Front Brake Hose Kit Right	TR86BrakeFHR
BRK011	Front Brake Pad Set	TR86PadsF
BRK012	Alcon rear brake kit LH	TR86BrakeLR
BRK013	Alcon rear brake kit RH	TR86BrakeRR
BRK014	Rear Brake Calliper Left	TR86BrakeRCL
BRK015	Rear Brake Calliper Right	TR86BrakeRCR
BRK016	Rear Brake Disk Assy Left	TR86BrakeRDAL
BRK017	Rear Brake Disk Assy Right	TR86BrakeRDAR
BRK018	Rear Brake Calliper Bracket Left	TR86BrakeRCBL
BRK019	Rear Brake Calliper Bracket Right	TR86BrakeRCBR
BRK0120	Rear Brake Hose Kit Left	TR86BrakeRHL
BRK021	Rear Brake Hose Kit Right	TR86BrakeRHR
BRK022	Rear Brake Pad Set	TR86PadsR
BRK023	Front Brake Disk Left	TR86DiskFRH
BRK024	Front Brake Disk Right	TR86DiskFLH
BRK025	Rear Brake Disk Left	TR86DiskRRH
BRK026	Rear Brake Disk Right	TR86DiskRRH
BRK027	Brake Disk Floating Kit	TR86DiskFK

Control Part	Description	TNZ Part Number
BRK028	Brake Disk Bell	TR86DiskB
BRK029	Brake Booster Spacer Block	TR86BBSB
BRK030	Brake pedal padding 2018	TR86BRKPEDAL

### 8.7 Wheels and tyres:

Control Part	Description	TNZ Part Number
WHL001	TR 86 Rim	TR86Rim
WHL002	TR 86 Wheel Nut	TR86WNut
WHL003	Nexen 235/40 ZR18 91Y Semi Slick	TR86TyreS

### 8.8 Electrical system:

Control Part	Description	TNZ Part Number
ELC001	MOTEC C125 dash	TR86Dash
ELC002	GPS-L10 for Motec Dash	TR86C125GPS
ELC003	RJ45 Cable 2m w nut & wash	TR86RJ45
ELC004	Steering Wheel Button Assembly with dangly cord	TR86SWBUT
ELC005	Dash Mounting Kit	TR86DASKIT
ELC006	Horn Modification	TR86Horn
ELC007	Ecu Tek Software Licence	TR86ET
ELC008	Rear Loom Modification	TR86RLM
ELC009	Brackets to fit dash to steering wheel	TR86C125B
ELC010	1/8bsp male to 1/8npt female	TR86Motec999
ELC011	Steering Wheel Clip	TR86SWClip
ELC012	Honeywell 150psi Gauge Oil Pressure Sensor	SENPRESH150
ELC013	Oil Pressure Sensor Wiring	TR86OILPK

### 8.9 Exterior:

Control Part	Description	TNZ Part Number
EXT001	Front Tow Bracket Assembly	TR86TBF
EXT002	Rear Tow Bracket Assembly	TR86TBR
EXT003	Bonnet Pin Kit	TR86BP

## 9.0 AUTHORISED MODIFICATIONS

The following modifications / changes to the TR 86 race car specification (as supplied by Toyota Racing), may be performed;

### 9.1 Vehicle safety equipment:

- 9.1.1** An alternative (larger) competition seat of the same type from the same manufacturer may be fitted.



**9.1.2** An alternative steering wheel of the same type from the same manufacturer may be fitted. It is permitted to add a steering wheel holder provided the fitment does not penetrate the safety cage and the installation is approved by the Championship Scrutineer or Championship Coordinator.

**9.2 Bodyshell and interior:**

**9.2.1** The front driving/fog lights as fitted in the front bumper may be removed in which case the following OE parts shall be fitted;

Fog Lamp Blanking Cover Panel RH	SU00301516
Fog Lamp Blanking Cover Panel LH	SU00301517

**9.2.2 Throttle Pedal Stop:** The original throttle pedal stop (mounted on the driver's side floor) shall be replaced with the 'control part' throttle stop INT007, TNZ Part Number TR86TStop as supplied by Toyota Racing.



**9.2.3 Throttle Pedal Face:** On the approval of the Category Technical Manager, it is permitted to fabricate and attach an extension plate to the throttle pedal face for the sole purpose of accommodating variances in driver foot size.

**9.2.4 Brake Pedal:** A brake pedal padding part number TR86BRKPPEDAL may be installed.



**9.2.5 Indicators Front and Side:** It is permitted to disconnect the front and side indicator bulbs, holder and wiring from the front and side Indicator units and secure them in a protected area. The indicator units must remain in their original location.

**Note:** Vehicles when used on public roads must have these indicators refitted and operational.

**9.2.6 Front Bumper Cover Grill:** It is recommended to install a mesh screen directly to and behind the Grill in the Front Bumper Cover for the sole purpose of preventing impact damage to the Radiator Core and Oil Cooler. The material of the mesh is free provided it has a mesh gap of no less than four(4)mm.

**9.2.7 Bodysell:** If the safety integrity of a cars bodysell is compromised beyond safe repair, the competitor, with the approval of Toyota New Zealand, may use a replacement bodysell for the remainder of the meetings providing the vehicle is Safety Audited by the Championship Scrutineer and the requirements of Appendix Four Schedule Z Article 3.4, and Appendix Four Schedule Z Article 6.1(8) are met.

### 9.3 Suspension:

**9.3.1 Camber:** Compliance shall be determined on the meeting designated Flat pad using the TR 86 Class Camber Tool.

(1) The front wheel camber may be changed (by top mount only) to a maximum of 5° negative.

(2) The rear wheel camber may be changed to a maximum of 2.2° negative.

**9.3.2 Front anti-rollbar** use either of 2 Adjustment holes at each end of roll-bar (Must remain connected)

**9.3.3 Rear anti-rollbar** use any of 3 Adjustment holes at each end of roll-bar. (Must remain connected)

**9.3.4 Toe** front and rear can be adjusted by using OE adjustment measures.

**9.3.5 Shock Absorber** adjustment using as supplied front and rear adjustment knobs.

**9.3.6 Ride height** can be adjusted provided a minimum front ride height of 140mm and a minimum rear ride height of 295mm is respected. This is to be measured from the outside edge lip of the bolt as shown below. Ride height measurement shall be taken with the vehicle in 'Race Trim' and may be measured at any time during qualifying sessions and/or races. For the purposes of ride height measurement, the tyres shall be set to 30 psi and the measurement shall be taken on the official flat pad.

Left Front  
measuring  
point



Right Front  
measuring  
point



Left Rear  
measuring  
point



Right Rear  
measuring  
point



**9.3.7** The front and rear shock body length is a set length and shall not be adjusted. The only permitted adjustment is for ride height which shall be adjusted using the Spring Perch Nuts.

(a) The front shock absorber body length shall be 24.0mm +/- 1.0mm. Figure 9.3.7-1 refers.

(b) The rear shock absorber body length shall be 164mm +/- 1.0mm. Figure 9.3.7-2 refers.

Figure 9.3.7-1

Front Shock  
Absorber Body  
Height measuring  
points



Figure 9.3.7-2

Rear Shock  
Absorber Body  
Height measuring  
points.



**9.3.8** Servicing of the control shock absorber shall only be carried out by or under the direct supervision of a qualified TOYOTA GAZOO Racing employee.

**9.3.9** All new Front shock inserts will come with a 14mm top peg.

#### 9.4 Brakes:

**9.4.1 Rear Brakes:** The following are the only permissible modifications to the 'Control Part' Rear Brake Disc, Part Number BRK023 and BRK024:

(1) The left hand and right hand rear brake discs may be interchanged, side to side.

**9.4.2** It is permitted to machine the brake discs provided the minimum thickness of 30mm for the front and 21mm for the rear is respected.

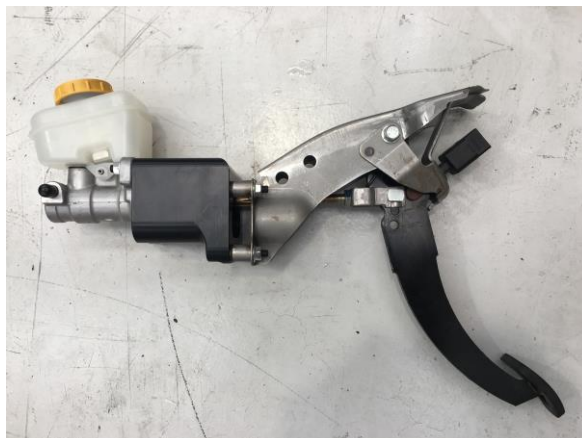
#### 9.5 Transponder Installation:

**9.5.1** Transponders must be installed as follows;



Mount on the left hand side of the tunnel. The front edge of the transponder must be in line with the rear seam edge of the left front anti-roll bar mounting member as indicated.

- 9.6 It is permitted to paint or apply vinyl to bodywork and rims provided that either process is for decorative purposes only and not performance enhancing.
- 9.7 The series production brake booster unit must be replaced with the control parts as per photo:



- 9.8 **Window Net:** compulsory window net from 1 November 2018. – do we need this date in here as its not relevant to the upcoming season



The window net mounting must meet the following specifications

- Top mounting strap must be fitted over the main hoop side brace and connect to the main hoop cross brace (see photo 6.8a & 6.8b)
- The centre of the front buckle for the net be mounted between 350mm (minimum) and 450mm (Maximum) above the top side impact bar. (see photo 6.8c)

Photo 6.8a

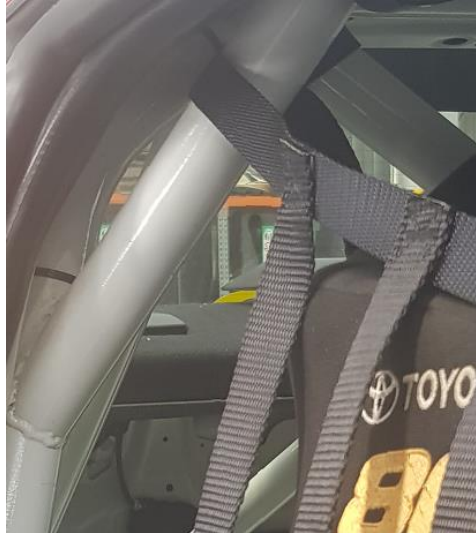


Photo 6.8b





## 10.0 OPTIONAL COMPONENTS

### 10.1 GTT86 GRB WRX STI Rear Toe Arm:



### 10.2 Toyota GT86 BRZ Rear Lower Camber Arms:



### 10.3 Front Anti Roll Bar Link:



**10.4 Weight Ballast:** Only ballast supplied by Toyota New Zealand is permitted (part numbers TR86BALLAST5 and/or TR86BALLAST104MM). Any Ballast is to be installed in the front passenger seat area of the vehicle, and the front passenger seat must be removed. The ballast must remain in the authorised location during any qualifying session and/or race.

**10.5 Rear Differential modification:** The following modification to the rear differential is permitted but must be carried out by Toyota NZ designated staff.

a) Replacement of the Pinion shaft crush spacer with a solid spacer and shim.

b) Skimming 1mm off the gear end of the Pinion to eliminate contact with Torson differential unit.

## 11.0 OTHER PROVISIONS

**11.1** A fuel coupling is installed in the return line of the fuel rail for the purpose of taking fuel samples. The coupling is a control part.

## 12.0 SPARE PARTS

**12.1** All OE replacement parts and control parts shall be purchased from a Toyota New Zealand store, Toyota New Zealand or their appointed trackside agent.

**12.2** A **gearbox** assembly OE part number SU00304329 will be available at events for purchase. To be eligible for the series all such gearboxes must be identified by the application of a 'C' seal (as per Article 4.3) prior to sale/collection.

## 13.0 FUEL

**13.1** The only fuel permitted to be used is 98 octane unleaded pump fuel, it is not permitted to use a pump fuel with ethanol added i.e. Gull Force 10.

**13.2** Unless stated in this Technical Schedule, additives of any kind, specification, chemical description or composition shall not be added to the fuel, nor may a blend of two or more fuels be used.