



Chief Scrutineer's Bulletin - #1 2017

The most important changes to the Vehicle Specifications for 2017 are: the definition of what is “equivalent” to hard shell, the requirement for closed vehicles to meet this and that Open Frame Vehicles are to have 100mm helmet clearance or be converted to being closed.

The **Changes to Vehicle Specifications 2017** document details all changes. This is accessed via the **orange Team Manager** button under **Team Scrutineering Check List**.

The most significant change, that will affect all Teams is a new process of Scrutineering.

Three separate Scrutineering Lists will be used. Each has a different purpose and covers different items, though some items appear more than once. Every Vehicle Specification rule is checked at some stage.

1. Team Manager Scrutineering Check List

This is accessed via the **orange Team Manager** button under **Forms 2017 as Form 2A**. It is to be completed by the Team Manager and submitted for each Event. It carries the numbers of the Vehicle Specifications rules that each item is dealing with. The list covers rider fitment in their vehicle, ancillary items, rider operation of their vehicle. It requires Principal recognition via Form 1 for school based Teams.

2. Event Check List

The Team Version of this list with Specs numbers is available under **Team Scrutineering Check List**. The official version will be completed by Scrutineers at Scrutineering for each Event. This list covers aspects prone to wear, items under introduction, items that have been subject to omission in the past.

3. Construction Check List

Team Version available with 2. It covers aspects of the vehicle created during construction. The official version will be checked once per season, prior to first Event where possible and kept by AIPP Administration with other Team documents.

Rob Spurling
AIPP Chief Scrutineer
15 March 2017

Changes to Vehicle Specifications for 2017

1. Removal of a grey area in the Specs concerning what is counted as “equivalent” to hard shell vehicles. There is now a requirement [14.12 (ii)] to install a panel roof or “head protecting framework” for all vehicles that are non-hard-shell if they are closed over the rider. Also, open framed vehicles are compelled to become closed if any rider’s helmet is closer than 100mm to the **COP**. Specifications include the minimum size of roof panel, or head protecting framework, to match the Specified Foam size and include COP bar minimum spacing. [14.7B and Appendix 14.7B]
 2. Retention of 100 mm minimum helmet clearance to top of head roll bar for Open Frame vehicles. [14.7A (ii)] Note that vehicles of this style were built when the clearance was 150mm and prior to COP being introduced. Re-building to meet 1 above is suggested.
 3. Discontinued use of the “Roller Test” in Scrutineering. The test will be kept as a measuring protocol if a rider is deemed to have inadequate head clearance during an Event. The definition [29 #4] gives a clear process for Teams to follow and it is a Team Manager responsibility to ensure that all of their Team riders comply.
 4. Removal of the “Nominated Rider” concept. It was impractical, was an unreasonable imposition on Teams and is not needed with the “Roller Test” not being done at Scrutineering. Replaced by listed consequences for a Team with a rider deemed not to have correct head clearances during an Event. [29 #1]
 5. Addition of a Specification to cover the track of four wheeled vehicles. [8.3]
 6. Addition of requirement for a minimum of two elastic loops if these are the closure method for COP, door or roof. [14.12 (viii)] Mention of spring loaded bolts as a possible closure method.
 7. Addition of Diagram 7, “A suggested way of providing protection when a COP bar is directly above a rider”.
 8. An addition to Appendix 4.6 [as dot points 7 & 8] to explain that design principles that include deformation and flexibility of structures while avoiding too much rigidity are supported.
 9. Practical measurement of COP strength is for Team riders to be able to sit on the roof. [Appendix 14.12 (i)]
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ROUND 3

VICTORIA
PARK
ADELAIDE



FORM 2A SA EVENTS

2017 UniSA Australian HPV Super Series

Conducted by Australian International Pedal Prix Inc.

VEHICLE NO.

TEAM MANAGER SCRUTINEERING CHECK LIST

To be completed by the Team Manager and submitted at every Event entered

Use NA to indicate those items that are Not Applicable to the Team's vehicle

What every rider must be able to do

- | | | |
|----------|--|--------------------------|
| 1 | Riders have the head room to meet the Roller Test indicators 3.5d, 4.15, 29.4 | <input type="checkbox"/> |
| 2 | Riders can move the steering freely from lock to lock 18.2 | <input type="checkbox"/> |
| 3 | Riders have practised and are able to perform the Slalom Test 18.3, 29.3 | <input type="checkbox"/> |
| 4 | Riders can see the ground 5m ahead when in their riding position 26.4 | <input type="checkbox"/> |
| 5 | Riders are able to get out of their vehicle unassisted 26.2, 4.11 | <input type="checkbox"/> |
| 6 | Riders are able to sight overtaking traffic in their mirrors 23.3 | <input type="checkbox"/> |

Rider Safety

- | | | |
|-----------|---|--------------------------|
| 7 | Riders are below the overhead roll-over clearance line 3.5c, 14.9, Diagram 6 | <input type="checkbox"/> |
| 8 | Riders are within roll-over protection viewed from front and rear 3.5c, 14.5 | <input type="checkbox"/> |
| 9 | Side impact protection covers shoulders, torso, hips, legs to knees 12.1 | <input type="checkbox"/> |
| 10 | Riders' hands are protected from tyres and spokes as needed 11.2 | <input type="checkbox"/> |
| 11 | Riders are safe from moving parts including clothing or hair tanglement 11.1 | <input type="checkbox"/> |
| 12 | There is provision for Rider ventilation and windscreen defogging 26.5, 26.7 | <input type="checkbox"/> |
| 13 | Lap belt mounts keep lap belt on pelvis [buckle conforms to ADR] 17.1, 17.2 | <input type="checkbox"/> |
| 14 | Shoulder seat belt mounts or guides are level with shoulders or higher 16.6i | <input type="checkbox"/> |

Maintaining Rider Safety during Events

- | | | |
|-----------|--|--------------------------|
| 15 | Shoulder belts stay on riders' shoulders 16.6iii | <input type="checkbox"/> |
| 16 | Seat belt adjusted for each Rider 17.3 | <input type="checkbox"/> |
| 17 | Rider safety is not compromised by the vehicle 3.5b, 4.6, 26.1 | <input type="checkbox"/> |
| 18 | Vehicle will maintain Specifications compliance during Events 3.2 | <input type="checkbox"/> |

Vehicle Construction

- | | | |
|-----------|---|--------------------------|
| 19 | Head Rollover Protection Structure and Cockpit Overhead Protection are 100 mm min. above Rider's helmets for Open Frame Vehicle 14.7Aii, 14.12ii | <input type="checkbox"/> |
| 20 | Specified Foam above all Rider's positions in closed canopy 14.7Bii, 29.2 | <input type="checkbox"/> |
| 21 | Body and COP catches operable from inside and outside 4.11 | <input type="checkbox"/> |
| 22 | Seat belt mounted as maker intended, each point separately 16.2 | <input type="checkbox"/> |
| 23 | Three bar slides allowed on shoulder straps when correctly threaded 16.5 | <input type="checkbox"/> |
| 24 | Tail light robustly mounted on centre line within 150mm of rear 22.7iv, vi, vii | <input type="checkbox"/> |

- 25** Tail light visible through 160° and not overly bright **22.7viii**
- 26** Tail light strip lighting [if used] confined to 350 - 600mm **22.7v**
- 27** Brake levers are safely away from moving parts and the road **20.3**
- 28** Headlight is white, non-flashing, mounted forward of feet **22.2, 22.3, 22.4**
- 29** Headlight securely fixed 250mm to 600mm above ground **22.2**

Attachments.

- 30** Speedo operational and visible to Riders **25**
- 31** Contrasting coloured Δs to mark non-obvious canopy hatch catches **4.12**
- 32** Number panel spaces provided : 300mm X 400mm : REAR of front wheels **3.7**
- 33** Four strap seat belt harness with Certification label **15.1, 15.3**
- 34** Electric warning device [horn] is mounted in front of riders' feet **24.1, 24.3**
- 35** Horn has direct outside air contact with the sound going forwards **24.2, 24.5**
- 36** Mirror mounted each side of vehicle and **within Riders' reach** **23.3, 23.1**
- 37** Mirrors are flat or mildly convex and have similar reflections **23.2, 23.1**
- 38** Mirror area 18cm² min.(nominally 2" diameter) or Zéfal "Spy" **23.1, 23.4, 23.5**
- 39** Red LED tail light set to steady **4.19, 22.7i, 22.7ii, 22.7iii**

Prohibitions

- 40** No helmet-mounted cameras [or other devices] **4.20**
- 41** No compression of overhead Specified Foam by Riders' helmets **4.16**
- 42** Riders cannot contact the road surface (especially elbows) **3.5c, 14.5**
- 43** Dash structures and steering are 250mm minimum from riders' faces **18.6**
- 44** No tyre or wheel contact with Riders **3.5b, 4.13**
- 45** No motorised fan in vehicle **6.2**
- 46** Window treatments are not in the way of Riders' vision **4.18**
- 47** Velcro is not used as the sole fastening system for **COP** **14.12viii**
- 48** No hooks on elastic cord [ie no occy straps] **14.12viii**
- 49** Subsidiary lights are not red or white **22.8**
- 50** Excessive seat padding is not being used **Appendix 17**

Name of Team Manager [Printed]

Signature

Date

CATEGORY
1



VEHICLE NO
999

**2017 UniSA Australian HPV Super Series
Conducted by Australian International Pedal Prix Inc
Event Check List**

- 1** Non-hard-shell closed-canopy has rigid panel above Rider **OR** head protecting frame with 200mm min.bar spacing + covering **14.12ii**
- 3** Closed canopy **COP** min. total combined width 240mm X 600mm **14.12ii**
- 4** No external roll bar on closed canopy vehicle **14.7Biv**
- 5** **Hard shell** strong enough for rollover protection **4.5, 14.12x**
- 6** **COP** is strong enough to deflect vehicle **14.12i, 14.12x**
- 7** **COP** locating fixtures/locking mechanisms will remain secure **14.8, 14.12v,vi**
- 8** If elastic loops used to close **COP** minimum of two needed **14.12viii**
- 9** Team demonstrates major body sections shutting with click **14.8**
- 10** Chassis tubes/structures free from fractures **4.1, 4.6, 14.2**
- 11** Chassis/bodywork joints intact **14.1, 14.6**
- 12** Composites fully cured, no unbound fibres, no **major** cracks **4.5, 14.2**
- 13** Head restraint system in place **4.17, 29.4**
- 14** Cockpit safe - cable-tie ends - cable ends - ducting - bolt threads **4.13**
- 15** Guarding secure and safe **11.1**
- 16** Replacement large body section presented **26.6**
- 17** Seat belt in good condition - not frayed, cut or restitched **15.4**
- 18** Belt not modified from manufacture **15.5**
- 19** Bolts and fittings as supplied or bolts minimum Grade 5 X 8mm **16.3**
- 20** 2-3 threads showing through nuts [Nylock or spring washer] **16.3**
- 21** Two independent adjustable brake systems mounted securely **19, 20.2**
- 22** Batteries mounted securely and safe from collision damage **4.10**
- 23** Batteries safe from shorting out - not liquid acid unless VRLA **4.9**
- 24** Horn correctly mounted and loud enough outside vehicle **24.1,24.2, 24.5**
- 25** Horn has momentary switch on steering handle **24.4**
- 26** Signage not offensive - nor of illegal substances, alcohol, tobacco **27**
- 27** Vehicle has white or light coloured underside **4.14**
- 28** Reflective material for roof issued and explained as needed **4.14**
- 29** Tail light at height of 350mm - 600mm **22.7iv**
- 30** Red lights rear facing only **22.6**
- 31** "Goggles Required" sticker attached if needed **Rider Attire - Event Book**
- 32** Rider able to perform slalom **18.3, 29.3**
- 33** Vehicle stops in controlled manner in designated distance **21**
- 34** Turning circle of 12 metres performed **18.1**

ONLY

Vertical column of 34 checkboxes for marking completion of each item.

TECHNICAL INFORMATION

CATEGORY

1



2017 UniSA Australian HPV Super Series
Conducted by Australian International Pedal Prix Inc
Construction Check List

VEHICLE NO

999

- | | | | | | | |
|--------------------------|----|--|--------------------------|----|---|--------------------------|
| <input type="checkbox"/> | 1 | Single seat recumbent, human powered drive to road wheel(s) 1.5, 6.1 | <input type="checkbox"/> | 31 | Adjustable seat prevented from moving during riding 4.23 | <input type="checkbox"/> |
| <input type="checkbox"/> | 2 | No original bicycle frames, or Go-Kart or motorbike frames 7.2-3 | <input type="checkbox"/> | 32 | Fixed seat stable within vehicle 3.5b, 4.13, 26.1 | <input type="checkbox"/> |
| <input type="checkbox"/> | 3 | Minimum of three full time, load bearing wheels 8.1 | <input type="checkbox"/> | 33 | Turning circle 12 m with smooth action rather than sharp turning 18.1-3, 29.3 | <input type="checkbox"/> |
| <input type="checkbox"/> | 4 | Floor pan able to stop rider's feet, legs, or hands hitting the road 10.1 - 10.4 | <input type="checkbox"/> | 34 | Steering has uninterrupted movement lock to lock 18.2 | <input type="checkbox"/> |
| <input type="checkbox"/> | 5 | Exterior of vehicle has no significant protrusions 4.7 | <input type="checkbox"/> | 35 | No rope, cable, tilt steer, lean steer, flexible column or rear steer systems 18.7 | <input type="checkbox"/> |
| <input type="checkbox"/> | 6 | Exposed axle ends are recessed or covered, shielded and flush 4.8 | <input type="checkbox"/> | 36 | Design and construction of steering will not injure Rider in track incident 18.5 | <input type="checkbox"/> |
| <input type="checkbox"/> | 7 | Vehicle construction robust, strong and durable 3.5a, 14.2 | <input type="checkbox"/> | 37 | Steering controls rounded - padded - 250mm minimum from Rider's face 18.6 | <input type="checkbox"/> |
| <input type="checkbox"/> | 8 | Joints competently welded, mounts properly attached 14.2, 14.6 | <input type="checkbox"/> | 38 | Steering limit to prevent jamming, over-centre travel or linkage damage 18.4 | <input type="checkbox"/> |
| <input type="checkbox"/> | 9 | Peripheral chassis has enough Rider protection measures 4.22, 10.5 | <input type="checkbox"/> | 39 | Hard shell canopy width at shoulders is nominally 500mm 14.4 | <input type="checkbox"/> |
| <input type="checkbox"/> | 10 | Forward projecting struts have a wide front mounting 13.4 | <input type="checkbox"/> | 40 | Canopy has sufficient room to allow Rider to turn helmet left and right 4.15 | <input type="checkbox"/> |
| <input type="checkbox"/> | 11 | Frontal design not dangerous to other vehicles or people 13.3 | <input type="checkbox"/> | 41 | Rider Rollover Protection Structures - Head and Front
Integral to chassis/frame/shell 14.1 | <input type="checkbox"/> |
| <input type="checkbox"/> | 12 | Vehicle nose larger than 200mm at 100mm from front 13.3 | <input type="checkbox"/> | 42 | Properly attached, suitable material, robust for purpose 4.6, 14.2-3 | <input type="checkbox"/> |
| <input type="checkbox"/> | 13 | Maximum: Length 2700mm : Width 1100mm : Height 1200mm 9 | <input type="checkbox"/> | 43 | For open framework: hoop is at right angles to centre-line 14.2 | <input type="checkbox"/> |
| <input type="checkbox"/> | 14 | Three wheel track minimum 600mm 8.2 | <input type="checkbox"/> | 44 | Hoops have corners of minimum radius of 50mm 14.7Aiii | <input type="checkbox"/> |
| <input type="checkbox"/> | 15 | Four wheel tracks: 1 axle 500mm min. + sum of both 900mm min. 8.3 | <input type="checkbox"/> | 45 | RRPS braced longitudinally to chassis 13.2, 14.7Aiv, 14.11 | <input type="checkbox"/> |
| <input type="checkbox"/> | 16 | Wheel base minimum 1000mm 8.4 | <input type="checkbox"/> | 46 | Removable bracing or roll bars attached appropriately 14.6 | <input type="checkbox"/> |
| <input type="checkbox"/> | 17 | Cockpit Overhead Protection bars 200mm maximum separation 14.12iii | <input type="checkbox"/> | 47 | Hard shell strong enough for rollover protection 14.7Bi, 14.12i, 14.12x | <input type="checkbox"/> |
| <input type="checkbox"/> | 18 | Open barwork vehicle shoulder region 500mm [integral] 14.4 | <input type="checkbox"/> | 48 | Front RRPS will protect Rider's feet - knees - legs if inverted or on side 13.1-2, 14.10 | <input type="checkbox"/> |
| <input type="checkbox"/> | 19 | Open barwork head rollbar hoop min. 300mm wide at 150mm from top 14.7Ai | <input type="checkbox"/> | 49 | Front RRPS stabilised as required to prevent longitudinal collapse 13.2, 14.11 | <input type="checkbox"/> |
| <input type="checkbox"/> | 20 | Head and front rollbars have brace at 10° min. [incl. vertical] 14.7Av | <input type="checkbox"/> | 50 | Bars-panels-wheels as enclosed cockpit for side-impact-T-bone protection 12.1-3 | <input type="checkbox"/> |
| <input type="checkbox"/> | 21 | COP minimum of 2 bars for open barwork with no negative bends 14.12iii, iv | <input type="checkbox"/> | 51 | Side impact structures anchored to not move sideways 12.4 | <input type="checkbox"/> |
| <input type="checkbox"/> | 22 | COP has effective width for vehicle shape and design 14.12xi | <input type="checkbox"/> | 52 | Forward structures integral, braced, will protect legs and feet in collision 13.1-2 | <input type="checkbox"/> |
| <input type="checkbox"/> | 23 | COP is not rear hinged 14.12ix | <input type="checkbox"/> | 53 | Bodywork inherently safe, especially Rider area 4.6, 26.1 | <input type="checkbox"/> |
| <input type="checkbox"/> | 24 | COP panel margins sufficient [20mm minimum overlap] 14.12vii | <input type="checkbox"/> | 54 | Specified Foam installed 14.7Bii, 29.2 | <input type="checkbox"/> |
| <input type="checkbox"/> | 25 | Sufficient locating fixtures and locks for bars and body panels 14.12v, vi | <input type="checkbox"/> | 55 | Rider able to exit vehicle unassisted 4.11, 26.2 | <input type="checkbox"/> |
| <input type="checkbox"/> | 26 | Seat belt mounts by frame tags or sleeved tube 16.2, 16.4, 17.1 | <input type="checkbox"/> | 56 | Airflow for Rider ventilation and internal defogging 26.5, 26.7 | <input type="checkbox"/> |
| <input type="checkbox"/> | 27 | Seat or sub-frame with belt mounts to chassis with equiv. strength 16.4, 16.7 | <input type="checkbox"/> | 57 | Bodywork not excessively enclosed to inhibit Rider vision 4.18, 26.3 | <input type="checkbox"/> |
| <input type="checkbox"/> | 28 | Shoulder belt mounts or guides at maximum 200mm centres 16.6ii | <input type="checkbox"/> | 58 | Discs covering chain ring teeth on both sides 11.3 | <input type="checkbox"/> |
| <input type="checkbox"/> | 29 | Seat shape will prevent the Rider sliding under the lap belt 16.8 | <input type="checkbox"/> | 59 | Chain's tension side covered [channel or tube] from under seat 11.4 | <input type="checkbox"/> |
| <input type="checkbox"/> | 30 | Vehicle design enables Rider compliance with Roller Test 4.15, 14.5, 14.9, 29.4 | <input type="checkbox"/> | 60 | 3mm maximum clearance from channel or tube to chain ring discs 11.4 | <input type="checkbox"/> |