

2017 INFORMATION KIT
PART B: HPV PRIMARY

RACV



ENERGY BREAKTHROUGH

23-26 NOVEMBER 2017 | MARYBOROUGH, VICTORIA

POWERED BY IMAGINATION

THE PREMIER SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS, ACTIVE LEARNING PROGRAM

A PARTNERSHIP BETWEEN



racveb.com

HUMAN POWERED VEHICLES (HPVS) - PRIMARY*

All Track activities are on the CFA Track.

WEDNESDAY 22 NOVEMBER

4.00 pm – 5.00pm Registration open

Location: Administration Centre

All teams should have arrived and registered by 12noon on Thursday. Display & Presentation and Design & Construction schedules will be prepared with this in mind.

THURSDAY 23 NOVEMBER

9.00 am Registration opens

Location: Administration Centre

9.00 am – 5.00pm Display and Presentations

Location: Display & Presentation marquees

8.30 am – 5.30pm Design and Construction and Scrutineering

Location: Display & Presentation marquees

6.00pm Rider Briefing

Location: In front of CFA Track Stage

6.30 pm – 8.30 pm Practice Session

CFA Track

FRIDAY 24 NOVEMBER

11.00 am Team Managers' Briefing

Location: Rear of CFA Track Stage

11.30 am Assembly of Starting Grid

Location: Front Straight, CFA Track

12 noon HPV A Trial Start

Location: CFA Track

8.00 pm Compulsory HPV A Break

SATURDAY 25 NOVEMBER

6.00 am HPV A Restart

Location: Pit Lane, CFA Track

12 noon HPV A Trial Finish

3.30 pm Presentation Ceremony (Primary)

Location: Stage in Energy Expo area

SUNDAY 26 NOVEMBER

No activities

*** PLEASE NOTE THAT THIS TIMETABLE IS SUBJECT TO AMENDMENTS**

TEAM NUMBERS – HPV A

Notes:

- Where possible, team numbers indicate pit numbers.
- Team numbers & pits 1 – 40 are located on the Front Straight.
- Team numbers & pits 41 – 90 are located on the Back Straight.
- Team numbers with a “3” prefix indicate where a school has three teams that will share two pit spaces. eg Team “310” shares pit space #10 with team 10.

Team No.	Team Name	School	Class
1	Team 1	Maryborough Education Centre	HPV A2
2	Team 2	Maryborough Education Centre	HPV A2
3	Torpeco	White Hills Primary School	HPV A2
4	EcoRush	White Hills Primary School	HPV A2
5	Overtaker	Frankston PS	HPV A2
6	Hailey's Comet	Haileybury College	HPV A2
306	Haileybury Hailstorm Newlands	Haileybury College	HPV A2
7	Haileybury Hornets	Haileybury College	HPV A2
8	Katchmi Jnr	Morwell Park Primary School	HPV A2
9	Black Dragons	Morwell Park Primary School	HPV A2
10	Hercules	Dingley Primary School	HPV A2
11	Zeus	Dingley Primary School	HPV A2
12	Lime	Talbot Primary School	HPV A1
13	Lemon	Talbot Primary School	HPV A1
14	Redback Junior	Carisbrook Primary School	HPV A2
15	Redback Mercury	Carisbrook Primary School	HPV A2
16	Avoca Sparks	Avoca Primary School	HPV A1
17	Blue Triangle - Pleasant St PS	Pleasant Street Primary School	HPV A2
18	Thunder	Holy Trinity Lutheran School	HPV A2
19	Hurricane	Holy Trinity Lutheran School	HPV A2
20	Gold Lightning	Garfield Primary School	HPV A1
21	Shooting Stars	Garfield Primary School	HPV A1
22	Shazzam	Jells Park Primary School	HPV A2
23	Vanquish	Jells Park Primary School	HPV A2
24	Cranbourne West	Cranbourne West Primary School	HPV A2
25	Lyndhurst Primary Ninja Turtles	Lyndhurst Primary School	HPV A2
26	Lyndhurst Primary Superheroes	Lyndhurst Primary School	HPV A2
27	Seagulls	Overport Primary School	HPV A2
28	Dolphins	Overport Primary School	HPV A2
29	Spirit of Diamond Creek	Diamond Creek Primary School	HPV A2
30	Wizards	Willmott Park Primary School	HPV A2
31	Warriors	Willmott Park Primary School	HPV A2
32	Laurimar Griffins	Laurimar Primary School	HPV A2
33	Laurimar Dragons	Laurimar Primary School	HPV A2

Team No.	Team Name	School	Class
333	Laurimar Phoenix	Laurimar Primary School	HPV A2
34	Maiden ENVY	Maiden Gully Primary School	HPV A2
35	TACO Gully	Maiden Gully Primary School	HPV A2
36	Pacman	Golden Square Primary School	HPV A2
37	Oak Tree Racing 1	Avenel Primary School	HPV A1
38	Oak Tree Racing 2	Avenel Primary School	HPV A1
39	Gecko 1	Seymour College	HPV A2
339	Gecko 3	Seymour College	HPV A2
40	Gecko 2	Seymour College	HPV A2
41	Gembrook Stars	Gembrook Primary School	HPV A1
42	Road Runners	Gembrook Primary School	HPV A1
43	TURBO	Rowellyn Park Primary School	HPV A2
44	SPACEJAM	Rowellyn Park Primary School	HPV A2
45	Shrekin' it	Terang College	HPV A1
46	Shooting Stars	Kingswood Primary School	HPV A2
47	Moreland Night Riders	Moreland Primary School	HPV A2
48	Epping Warriors 1	Epping Primary School	HPV A2
49	Rolling Thunder	Yuille Park Community College	HPV A1
50	Gekko	Yuille Park Community College	HPV A1
51	Optiform	Caledonian Primary School	HPV A2
52	Dash	Caledonian Primary School	HPV A2
53	Dynamite	Clunes Primary School	HPV A1
54	Canadian Lead Thunder	Canadian Lead Primary School	HPV A1
55	Canadian Lead Lightning	Canadian Lead Primary School	HPV A1
56	Wimmera Rampage	Horsham West and Haven PS	HPV A2
57	Wimmera Heat	Horsham West and Haven PS	HPV A2
58	Road Runner	Frankston Heights PS	HPV A2
59	Fusion Flash	Frankston Heights PS	HPV A2
60	Back to Tomorrowland	Lloyd Street Primary School	HPV A2
61	Envirofeud	Lloyd Street Primary School	HPV A2
62	Bulletproof	Leongatha Primary School	HPV A2
63	XLR8	Leongatha Primary School	HPV A2
64	Benton Bullets	Benton Junior College	HPV A2
65	Team 1	Bonbeach Primary School	HPV A2
66	Zero Gravity	Mt Eliza Primary School	HPV A2
67	E Tweens	Mt Eliza Primary School	HPV A2
68	Lightning	Niddrie Primary School	HPV A2
69	Thunder	Niddrie Primary School	HPV A2
70	Eco Racer 1	St Therese's Primary School	HPV A2
370	Eco Racer 3	St Therese's Primary School	HPV A2
71	Eco Racer 2	St Therese's Primary School	HPV A2

Team No.	Team Name	School	Class
72	Sonic Boom	Derinya Primary School	HPV A2
372	Tempest	Derinya Primary School	HPV A2
73	Spitfire	Derinya Primary School	HPV A2
74	Mistral	The Peninsula School	HPV A2
75	Red Rockets	Tooradin Primary School	HPV A2
76	Flamin' Mozzies	Tooradin Primary School	HPV A2
77	Cool Runnings	St Patrick's Primary School	HPV A2
78	Disco Duckling	Strathfieldsaye Primary School	HPV A2
79	Racing Rebels	Strathfieldsaye Primary School	HPV A2
80	Thunder	Lockwood Primary School	HPV A1
81	Lightning	Lockwood Primary School	HPV A1
82	ENPS Predator	Eaglehawk North Primary School	HPV A2
83	ENPS Raptor	Eaglehawk North Primary School	HPV A2
84	Kennington 1	Kennington Primary School	HPV A2
85	Kennington 2	Kennington Primary School	HPV A2
86	Bolters	Lightning Reef Primary School	HPV A1
87	Oscar	Berwick Primary School	HPV A2
387	Cookie	Berwick Primary School	HPV A2
88	Elmo	Berwick Primary School	HPV A2
89	Kildare Barbara	St. Augustine's Primary School	HPV A2
90	Kildare May	St. Augustine's Primary School	HPV A2

PIT AREAS

- Where possible, pit numbers are the same as the team number.
- All pit sites are numbered.
- Team numbers with a “3” or “4” prefix indicate where a school with three teams will use a total of two pit spaces. Eg. Team “310” shares pit space number 10 with team number 10.
- All pit sites must be set-up as per the direction of Event Officials and changes may be required at the Officials discretion.
- All pit sites are approximately 2.8 m – 3 m wide by 2 metres deep.
- All teams must leave approximately 1 m clearance area in front of their pit site for rider changeovers and for other teams to have line of sight of the track and pit lane.
- There is no existing shelter in the pit areas. Teams are encouraged to erect a small tent, or arrange to share a tent with another team.
- During the event there is restricted access to the pit area.
- No motor vehicles are allowed in the TRYathlon pit areas.
- If the surface of your pit area is hard, that is concrete and asphalt, securing tents will require water or sand filled weights rather than pegs.
- Pit areas should NOT be set up too early. 90 mins prior to your scheduled practice sessions should be adequate.
- HPV Primary teams and TRYathlon teams will be required to share pit spaces for the TRYathlon Practice session on Friday evening. Your assistance and patience with this is appreciated.
- HPV Primary teams will also need to dismantle and clear their pit spaces quickly after the conclusion of the HPV Primary trial to allow time for the TRYathlon teams to set-up for their Endurance trial.

Display and Presentation												
TIME	Panel 1			Panel 2			Panel 3			Panel 4		
9.30 am	1A	20	Garfield Primary School	2A	41	Gembrook Primary School	3A	1	Maryborough Education Centre	4A	48	Epping Primary School
10.00 am	1B	12	Talbot Primary School	2B	16	Avoca Primary School	3B	65	Bonbeach Primary School	4B	28	Overport Primary School
11.00 am	1A	42	Gembrook Primary School	2A	21	Garfield Primary School	3A	27	Overport Primary School	4A	2	Maryborough Education Centre
11.30 am	1B	80	Lockwood Primary School	2B	13	Talbot Primary School	3B	30	Willmott Park Primary School	4B	34	Maiden Gully Primary School
12 noon	1A	86	Lightning Reef Primary School	2A	54	Canadian Lead Primary School	3A	372	Derinya Primary School	4A	25	Lyndhurst Primary School
1.30 pm	1B	55	Canadian Lead Primary School	2B	81	Lockwood Primary School	3B	35	Maiden Gully Primary School	4B	31	Willmott Park Primary School
2.00 pm	1A	45	Terang College	2A	36	Golden Square Primary School	3A	26	Lyndhurst Primary School	4A	82	Eaglehawk North Primary School
2.30 pm	1B	49	Yuille Park Community College	2B	37	Avenel Primary School	3B	56	Horsham West and Haven Primary School	4B	75	Tooradin Primary School
3.30 pm	1A	38	Avenel Primary School	2A	50	Yuille Park Community College	3A	24	Cranbourne West Primary School	4A	57	Horsham West and Haven Primary School
4.00 pm	1B	53	Clunes Primary School	2B	77	St Patrick's Primary School	3B	46	Kingswood Primary School	4B	17	Pleasant Street Primary School
4.30 pm	1A	#N/A	#N/A	2A	###	#N/A	3A	#N/A	#N/A	4A	#N/A	#N/A

Display and Presentation – Thursday, 23rd November

TIME	Panel 5			Panel 6			Panel 7			Panel 8		
9.30 am	5A	8	Morwell Park Primary School	6A	72	Derinya Primary School	7A	32	Laurimar Primary School	8A	47	Berwick Primary School
10.00 am	5B	58	Frankston Heights Primary School	6B	5	Frankston PS	7B	84	Kennington Primary School	8B	43	Rowellyn Park Primary School
11.00 am	5A	73	Derinya Primary School	6A	68	Niddrie Primary School	7A	59	Frankston Heights Primary School	8A	33	Laurimar Primary School
11.30 am	5B	22	Jells Park Primary School	6B	62	Leongatha Primary School	7B	70	St Therese's Primary School	8B	6	Haileybury College
12 noon	5A	69	Niddrie Primary School	6A	333	Laurimar Primary School	7A	10	Dingley Primary School	8A	51	Caledonian Primary School
1.30 pm	5B	76	Tooradin Primary School	6B	22	Jells Park Primary School	7B	63	Leongatha Primary School	8B	40	Seymour College
2.00 pm	5A	306	Haileybury College	6A	11	Dingley Primary School	7A	3	White Hills Primary School	8A	64	Benton Junior College
2.30 pm	5B	18	Holy Trinity Lutheran School	6B	39	Seymour College	7B	52	Caledonian Primary School	8B	71	St Therese's Primary School
3.30 pm	5A	83	Eaglehawk North Primary School	6A	19	Holy Trinity Lutheran School	7A	7	Haileybury College	8A	4	White Hills Primary School
4.00 pm	5B	88	Moreland Primary School	6B	29	Diamond Creek Primary School	7B	#N/A	#N/A	8B	#N/A	#N/A
4.30 pm	5A	#N/A	#N/A	6A	###	#N/A	7A	#N/A	#N/A	8A	#N/A	#N/A

Display and Presentation - Thursday, 23rd November

TIME	Panel 9			Panel 10			Panel 11			Panel 12		
9.30 am	9A	23	Jells Park Primary School	10A	339	Seymour College	11A	144	New Gisborne Primary	12A	157	Tyabb Primary School
10.00 am	9B	89	St. Augustine's Primary School	10B	67	Mt Eliza Primary School	11B	120	Kilberry Valley Primary School	12B	117	Emerald Primary School
11.00 am	9A	9	Morwell Park Primary School	10A	85	Kennington Primary School	11A	131	Cockatoo Primary School	12A	111	Beaconsfield Upper Primary School
11.30 am	9B	87	Berwick Primary School	10B	90	St. Augustine's Primary School	11B	116	Emerald Primary School	12B	104	Tootgarook Primary School
12 noon	9A	66	Mt Eliza Primary School	10A	14	Carisbrook Primary School	11A	151	Beaconsfield Primary School	12A	153	Natte/Amphi Primary Schools
1.30 pm	9B	370	St Therese's Primary School	10B	387	Berwick Primary School	11B	136	St Margarets School and Berwick Grammar School	12B	146	St Mary's Primary School
2.00 pm	9A	15	Carisbrook Primary School	10A	60	Lloyd Street Primary School	11A	159	St Michael and John's Primary School	12A	122	Flemington Primary School
2.30 pm	9B	44	Rowellyn Park Primary School	10B	78	Strathfieldsaye Primary School	11B	121	Kingsley Park Primary School	12B	137	St Margarets School and Berwick Grammar School
3.30 pm	9A	79	Strathfieldsaye Primary School	10A	74	The Peninsula School	11A	124	Yarrawonga College P-12	12A	107	Mornington Primary School
4.00 pm	9B	60	Lloyd Street Primary School	10B	###	#N/A	11B	123	Flemington Primary School	12B	133	Kororoit Creek Primary School

Design and Construction – Thursday, 23rd November

TIME								
8:30 AM	1	Maryborough Education Centre	89	St. Augustine's Primary School	116	Emerald Primary School	372	Derinya Primary School
	2	Maryborough Education Centre	90	St. Augustine's Primary School	117	Emerald Primary School	73	Derinya Primary School
	101	Maryborough Education Centre	160	St. Augustine's Primary School	118	Emerald Primary School	158	Tyabb Primary School
	65	Bonbeach Primary School	27	Overport Primary School	28	Overport Primary School	152	Beaconsfield Primary School
9:00 AM	25	Lyndhurst Primary School	33	Laurimar Primary School	22	Jells Park Primary School	131	Cockatoo Primary School
	26	Lyndhurst Primary School	333	Laurimar Primary School	23	Jells Park Primary School	111	Beaconsfield Upper Primary School
9:30 AM	62	Leongatha Primary School	46	Kingswood Primary School	10	Dingley Primary School	104	Tootgarook Primary School
	63	Leongatha Primary School	9	Morwell Park Primary School	11	Dingley Primary School	127	Gleneagles Secondary
10:00 AM	30	Willmott Park Primary School	339	Seymour College	6	Haileybury College	52	Caledonian Primary School
	31	Willmott Park Primary School	306	Haileybury College	51	Caledonian Primary School	105	Nathalia Secondary College
10:30 AM	41	Gembrook Primary School	48	Epping Primary School	7	Haileybury College	144	New Gisborne Primary
	20	Garfield Primary School	72	Derinya Primary School	8	Morwell Park Primary School	111	Beaconsfield Upper Primary School

11:00 AM	12	Talbot Primary School	18	Holy Trinity Lutheran School	5	Frankston PS	47	Berwick Primary School
	16	Avoca Primary School	19	Holy Trinity Lutheran School	387	Berwick Primary School	159	St Michael and John's Primary School
	112	Beaconsfield Upper PS						
11:30 PM	45	Terang College	56	Horsham West and Haven Primary School	39	Seymour College	157	Tyabb Primary School
	53	Clunes Primary School	57	Horsham West and Haven Primary School	40	Seymour College	103	Tootgarook Primary School
12 noon	42	Gembrook Primary School	32	Laurimar Primary School	84	Kennington Primary School	120	Kilberry Valley Primary School
	21	Garfield Primary School	139	Seymour College	85	Kennington Primary School	140	Seymour College
12:30 PM	49	Yuille Park Community College	12	Talbot Primary School	70	St Therese's Primary School	87	Berwick Primary School
	50	Yuille Park Community College	13	Talbot Primary School	71	St Therese's Primary School	134	Kororoit Creek Primary School
1:00 PM	37	Avenel Primary School	86	Lightning Reef Primary School	78	Strathfieldsaye Primary School	138	St Margarets School and Berwick Grammar School
	38	Avenel Primary School	77	St Patrick's Primary School	79	Strathfieldsaye Primary School	151	Beaconsfield Primary School
1:30 PM	68	Niddrie Primary School	58	Frankston Heights Primary School	43	Rowellyn Park Primary School	67	Mt Eliza Primary School
	69	Niddrie Primary School	59	Frankston Heights Primary School	66	Mt Eliza Primary School	107	Mornington Primary School

2:00 PM	24	Cranbourne West Primary School	17	Pleasant Street Primary School	The Peninsula School	113	EDEC HPV Team
	46	Kingswood Primary School	88	Moreland Primary School	Diamond Creek Primary School	114	EDEC HPV Team
2:30 PM	81	Lockwood Primary School	34	Maiden Gully Primary School	Natte/Amphi Primary Schools	133	Kororoit Creek Primary School
	80	Lockwood Primary School	35	Maiden Gully Primary School	EDEC HPV Team	102	Ballarat Christian College
3:00 PM	54	Canadian Lead Primary School	36	Golden Square Primary School	Carisbrook Primary School	121	Kingsley Park Primary School
	55	Canadian Lead Primary School	370	St Therese's Primary School	Carisbrook Primary School	126	Gleneagles Secondary
3:30 PM	75	Tooradin Primary School	106	Mornington Primary School	Lloyd Street Primary School	136	St Margarets School and Berwick Grammar School
	76	Tooradin Primary School	145	North Geelong Secondary College	Lloyd Street Primary School	137	St Margarets School and Berwick Grammar School
4:00 PM	82	Eaglehawk North Primary School	64	Benton Junior College	Toorak College	108	Toorak College
	83	Eaglehawk North Primary School	44	Rowellyn Park Primary School	Toorak College	146	St Mary's Primary School

4:30 PM	124	Yarrowonga College P-12	149	Moorak Primary School/Yahl Primary School	148	Yuille Park Community College	119	Walgett Community College High School
	125	Yarrowonga College P-12	135	St Paul's AGS (Warragul)	147	Yuille Park Community College	132	Lucknow Primary School
5:00 PM	3	White Hills Primary School	122	Flemington Primary School	154	Overnewton Anglican Community College	142	Rossbourne School
	4	White Hills Primary School	123	Flemington Primary School	128	Kyabram P-12 College	143	Rossbourne School
5:30 PM	141	Seymour College	161	Koo Wee Rup Secondary College	#N/A	#N/A	#N/A	#N/A
	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

NOTE: These Scrutineering/Design & Construction times have been allocated to reduce the need for queuing for long periods. Please present for your Scrutineering / Design & Construction assessment within the period allocated

HPV, EEV AND TRY-ATHLON ENDURANCE TRIAL REGULATIONS:

1. Spirit of Competition

The RACV Energy Breakthrough Trial presents a unique opportunity for students to extend their learning experience beyond the boundaries of formal education. The following competition regulations have been framed so that the efforts and experiences of all participants are maximised, to be bound only by the constraints of safety and the spirit of healthy, but friendly competition.

2. Eligibility

2.1 Make-up of Teams

Teams will consist of the following numbers of competitors:

- Human Powered Vehicle Primary - 6 minimum – 10 maximum
- Human Powered Vehicle Secondary - 6 minimum – 8 maximum
- Energy Efficient Vehicle – 6 minimum - 8 maximum

2.1.1 Gender balance

- Except for Open Class teams and all female teams, a minimum of 50 per cent of the competitors in any one team shall be female.
- Gender ratio in Open Class teams is free.

2.2 Registered Riders

- Only registered team riders shall take part in the trial, however rider changes can be made up to the start of the endurance trial. (See Section 2.6).
- Emergency riders are encouraged to participate in the practice session to ensure they are familiar with the track and the vehicle.

2.3 Team Member Participation

- Team managers must ensure that every nominated team member participates as a driver.
- Managers are required to keep a log of rider track time, which can be checked by officials investigating incidents.

2.4 Age of Drivers

- Drivers of Energy Efficient Vehicles shall be at least 14 years of age, unless special prior approval is provided by organisers.

2.5 Identification

- All competitors must have official identification, which must be shown on request during the trial.

2.6 Rider Substitution

- Sick or injured riders may be replaced prior to the start of the trial by a registered reserve rider of the same gender. Riders will not be substituted after the start of the trial.
- This substitution will require the identification wristband of the replaced rider to be handed to the Administration Centre and a new identification issued to the reserve rider.

3. Rider Attire

3.1 Fit and Adjustment

- All vehicle occupants shall wear the following safety attire correctly fitted and adjusted at all times the vehicle is on the track during practice and the trial.

3.1.1 Helmet

- For human powered vehicles and pedal/electric hybrid vehicles, minimum requirement is a bicycle helmet approved to AS 2063 or AS 1698.
- For petrol-powered or electric-only Energy Efficient Vehicles, requirement is a motor cycle helmet approved to AS 1698.

3.1.2 Eye Protection

- Shatterproof glasses, goggles or a helmet visor must be worn at all times.
- Provision must be made for the lights on period overnight.
- Full faced helmets must have the visor down at all times unless the rider is wearing other eye protection.

3.1.3 Gloves

- Strong material BMX or motor-cross type gloves preferred.

3.1.4 Shoes

- Full foot coverage, sandals not permitted.

3.1.5 MP3 players

- The use of MP3 players or similar music/entertainment devices by riders is NOT permitted during trial or practice sessions.

3.1.6 Video cameras

- Small video cameras (eg. GoPro) are allowed as long as they are not attached to the rider's helmet and do not pose any safety risk. Camera's must not be mounted to the outside of the vehicle silhouette when viewed from the front

3.1.7 Clothing

Human Powered Vehicles:

- Minimum coverage of shoulders, upper body and mid-thigh e.g.: shorts and T-shirt; or cycling knicks and jersey.
- **HPV Note:** Sleeveless triathlon skin suits, sleeveless cycling jerseys, sleeveless t-shirts, tank tops or singlets are not permissible.

Electric powered Energy Efficient Vehicles

- Riders of pedal/electric hybrid vehicles may choose to comply with the Human powered Vehicle clothing rules.
- Riders of electric-only vehicles must comply with the requirements for liquid fuelled vehicles below.
- Teams that have battery power must provide a pair of full cover gloves and a pair of protective goggles for anyone handling batteries.

Liquid fuelled Energy Efficient Vehicles

- All competitors shall wear overalls or clothes that cover and are neat fitting from ankle to wrist to neck.

- Fire retardant material is advised and light fabric/disposable overalls are not permitted
- It is not permissible for drivers of fuel powered vehicles to 'dress down' when their fuel is used up.

4. Scrutineering

4.1 Compulsory

Scrutineering is compulsory for all vehicles and teams, to ensure compliance with vehicle specifications and safety attire requirements.

4.2 Before track

Before entering onto the track for practice, all vehicles must be scrutineered for safety.

RACV Scrutineers can refuse permission to enter the track for any safety reason.

4.3 Subsequent scrutineering

All vehicles will also be inspected at random during the trial for operation of safety items or when the vehicle is involved in a track incident. (See Section 7.11).

5. Traffic Lights and Signals

All competitors shall understand the meaning of the following traffic signals/flag signals:

Green Light or Flag

- The track is clear for competition.

Yellow Light or Flag

- **A sign of danger or track obstruction in the vicinity of the marshal point.**
- Riders are required to stop racing, slow and pass the point of danger at a significantly reduced speed (at or below 20 kph) using extreme caution
- Riders must not resume competition until they are well clear of the danger and until they reach the vicinity of the next marshal point displaying a Green Light or Flag.

Red Light or Flag

- **An indication of extreme danger.**
- All vehicles shall come to an **immediate** stop.
- Racing has ceased.
- Riders must follow the directions of the Clerk of Course and flag marshals.

Blue Flag

- Is an indicator that a faster vehicle is positioned close to you. Competitors shown the blue flag must hold their line to allow overtaking.

6. Start, Finish and Break

6.1 Pre-Race Briefing

All Team Managers must attend the pre-race briefing by the Clerk of Course and Trial Coordinator.

6.2 Lap Counters

It is the Team Manager's responsibility to ensure that:

- a transponder is picked up and correctly fitted to the vehicle
- the transponder is working at all times
- the transponder is returned to the Administration Centre at the end of the trial.

6.3 Grid Assembly

- The Clerk of Course, in conjunction with the event committee, will allocate and advertise starting grid positions following the practice session.
- Vehicles will be called to the starting grid assembly area at least 30 minutes prior to the official start.
- If a vehicle is not on the grid within 15 minutes of the scheduled start time, officials reserve the right to place the vehicle at the rear of the grid.
- Vehicles in the first 20 grid positions will be assembled according to the official grid positions. Thereafter teams will be assembled in groups of ten where exact starting position is less critical (ie. 20 – 30, 30 – 40, 40 – 50, 50 – 60, 60 – 70, etc).

6.4 Trial Start

The trial will be started with the drop of the National flag.

6.5 Trial Finish

All trials will conclude with the display of the black and white chequered flag,

- 24 hours after the start for the secondary HPV and Energy Efficient Vehicle teams.
- 14 hours of competition for the HPV Class A teams.

6.6 Class A Compulsory Break

6.6.1 Primary break

All HPV A vehicles will leave the track nominally from the specified time on Friday evening and resume their trial at the specified time on Saturday.

6.6.2 Rejoining the trial

All HPV A vehicles will be assembled on the track in their finishing positions for the restart.

7. Track Conduct

7.1 Speed Limit

Speedometers are mandatory and ALL competing vehicles shall observe a maximum speed of 60 kilometres per hour during practice and the trial, and 15 kph in pit lane.

Vehicles exceeding the speed limit (60 km per hour) will have a penalty applied (see Section 11.3).

7.2 Blue Line

A blue line has been painted on the track.

Vehicles must keep to the **left** of the track, on the inside of the BLUE line, unless overtaking another vehicle.

7.3 Seatbelts

All vehicle occupants shall wear a correctly adjusted seatbelt or harness when on the track during practice and the trial.

See section 4.6.3 of the Vehicle Specifications regarding correct adjustment of seat belts.

7.4 Injured Riders

Track marshals and RACV officials monitor the trial and where necessary will call for assistance from St John and the Rural Ambulance Service to attend to injured riders.

7.5 Right of Way

Competing vehicles have right of way over disabled vehicles that need to be recovered and returned to the pit area.

7.6 Direction of Travel

Under no circumstances is a vehicle to be driven or pushed on the track in the opposite direction to racing.

7.7 Overtaking

Vehicles should overtake on the outside, to the right of the vehicle being overtaken.

Riders must not change lanes without checking their mirrors to make sure it is safe to do so.

It is the responsibility of the overtaking (faster) vehicle to ensure that the overtaking move is carried out without endangering other competitors.

Cutting in, deliberate blocking or leaving insufficient clearance will be penalised.

7.8 Vehicle Recovery

If a vehicle breaks down, the corner marshals will report the incident and the team will be informed.

It is the responsibility of the team to recover their vehicle.

If a team is unable to safely recover their vehicle they can request assistance from the RACV.

7.9 Vehicle Lighting

Front and rear lights as required by vehicle specifications shall be illuminated during the hours of darkness as directed by the Clerk of Course.

Riders must stop in the pits as soon as possible to rectify any inoperable or insecure light.

Teams are encouraged to operate their lights for the entire duration of the trial if it is practical to do so.

7.10 Lighting Batteries

Batteries used solely for lighting may be charged and/or recharged and/or replaced as required.

7.11 Track Incidents

Vehicles involved in major on track collisions, crashes or rollovers must be tagged by officials and are required to proceed directly to the pits for inspection and if necessary, repair.

It is the responsibility of the rider and the team to ensure a crashed vehicle is tagged and any deliberate attempt to avoid tagging will incur a penalty.

Tagged vehicles will not be allowed to rejoin the trial until the tag is removed following an RACV inspection.

Vehicles will also be inspected at random during the trial for operation of safety items such as brakes or mirrors which will also require rectification before continuing.

7.12 RACV Vehicle

When the RACV Vehicle is on the track it displays flashing yellow lights which indicates extreme danger in the same manner as corner yellow lights/flags.

Riders must slow, use extreme caution, must not overtake other competitors and pass when directed by the RACV driver.

8. Pit Procedure

8.1 The Pit Areas

- All pit sites must be set-up as per the direction of Event Officials.
- Each team in the HPV, EEV and Try-athlon endurance trials will be allocated a site in the pit area, except where schools with three entries in a category will be required to utilise two pits sites.
- All pit sites are numbered and are a minimum of 2.8 metres wide by 2.0 metres deep.
- Where possible, pit numbers are the same as the team number.
- All teams must leave approx 1 metre clearance area in front of their pit site for rider changeovers and for other teams to have line of sight of the track and pit lane.
- There is no existing shelter in the Pit areas.
Teams are encouraged to erect a small tent, or arrange to share a tent with another team. Teams are encouraged to erect a team or school banner in their designated pit area(s) including team numbers. A banner about two by one metres would be ideal.
- HPV A teams are required to share their pit spaces - but not tools and resources - with Try-athlon teams for their Friday night Try-athlon Practice session.
- No vehicles or trailers will be allowed in the Try-athlon pit areas.

8.2 Speed in Pits

Maximum speed in the pit area is 15 km/h.

8.3 Direction of Travel in Pits

Under no circumstances shall a vehicle enter the pit area via the pit exit lane.

8.4 Driver Change-Over

All driver and passenger changes shall occur in the designated area adjacent to each team's pit.

8.5 Stopping in Pits

8.5.1 Brakes only

Vehicles shall come to a halt in the driver change lane under the effect of the vehicle's own braking system.

Stopping with the assistance of others is not permitted.

8.5.2 Full stop

Vehicles shall be stationary prior to unfastening seatbelts or harness.

8.5.3 Riders/Drivers

Driver refreshments and adjustments to clothing etc. shall only be effected when the vehicle is stationary in the pit area.

8.5.4 Pit Crew

- A maximum of three students and one supervising adult, in addition to the incoming and outgoing riders, shall attend a vehicle in the pit lane at driver change-over.
- The four designated people from each team attending the vehicle in pit lane are encouraged to wear a green reflective vest.

8.6 Pit Lanes

Pit entry and exit lanes shall be kept clear at all times.

8.7 Pit Crew Communications

- The use of radio communication between rider and pit crew is permitted provided operating the unit does not interfere with the rider's control of the vehicle.
- The use of notice boards for communication between the rider and the pit crew are permitted.

However, such notice boards and their use shall comply with the following:

- they must be held and displayed by one person only at a time
- they must be held so they do not go beyond the line of pit lane barriers.

8.8 Major Repairs

- Major repairs including welding and grinding equipment must NOT be carried out in the pit lane. The pit lane includes a team's tent adjacent to the track.
- These repairs must be carried out in the vicinity of the repair container.

8.9 Stationary Vehicles

In pit or driver change lanes, stationary vehicles shall give way to vehicles proceeding along these lanes.

8.10 Removal of Components

Redundant, superfluous and/or damaged components of substantial mass i.e. greater than 0.5 kg, may not be removed from a vehicle except with the permission of the chief scrutineer or deputy. At the discretion of the Chief Scrutineer his/her deputy, the vehicle may be required to carry ballast. Teams may not substitute or replace power sources or strip the vehicle below its starting weight after the commencement of the event.

8.11 Vehicle Restarts

Vehicles that have been involved in a track incident and received a Return to Pits sticker cannot restart until a RACV Marshal has checked the vehicle is safe to continue and removed the sticker.

9. Fuel Use and recharging of Batteries:

9.1 Fuel Burning Energy Efficient Vehicles

In accordance with Section 1.4.2 of the EEV specifications, fuel burning entries will receive a single allocation of fuel

9.2 Amounts of Fuel Allocated

- Hybrid vehicles – 3 litres
- Petrol single power source vehicles – 4 litres

9.3 Sealing of Fuel Tanks

Fuel tanks on vehicles will be sealed after the allocation of fuel prior to the start of the event.

9.4 Batteries

At scrutineering teams using batteries are required to present all of their battery allocation for identification marking.

All batteries must have manufacturers labels including details of battery type displayed.

Batteries must be labelled with the school name.

9.5 Battery Recharging – process and Procedure

The onus is on the teams to use safe and reliable battery chargers.

Teams will start with fully charged batteries as the charging area will not open until one hour after the trial start. After which, there is no limit placed on the amount of time that batteries can be charged. All recharging is to be conducted in a designated area provided by the event organisers, and under constant supervision, to ensure charging is carried out in a safe manner.

Any team found to be charging batteries not in the designated area will be penalised.

All battery chargers must be electrically tested and tagged. The chargers must also be presented at the battery check on Saturday for an extra Energy Breakthrough tag to be applied. Only approved tagged chargers can be used.

Battery chargers must be of a commercially available type. The physical dimensions of the charger must not exceed 30cm x 30cm x 30cm.

Bare connections and alligator clips are strictly forbidden. All connections must be made using a properly insulated electrical connector. Anderson plugs are the preferred type of connector.

Only one battery pack may be charged at a time. A battery pack is defined as the usual amount of batteries required to run the vehicle.

Teams will be provided with one power outlet in the charging area, which will be fitted with a digital readout. Outlets are restricted to 4 amps (fused) or 720W whichever is the lower and officials will disconnect chargers drawing higher amp readings and notify the team.

10. Trial Point Scoring

- The vehicle completing the most number of laps in each class in the trial period scores the maximum 50 points.
- Other vehicles in each class score points for the number of laps completed in proportion to the number of laps.
- For example, say team AA in a particular class travels the greatest distance, 200 laps, and team BB in the same class travels 160 laps.
- Points scored are as follows:

Team AA:

200 laps = 50 points

Team BB:

160 laps $50 \times \frac{160}{200} = 40$ points

11. Infringements

11.1 Vehicle Design

Vehicles which are considered safe but DO NOT comply with key elements of vehicle specifications may be given permission to start the trial with a penalty.

This penalty can be up to 50 laps and will be applied by the RACV Scrutineers.

11.2 Reporting of Incidents

Teams may report track incidents or infringements of these competition rules to the RACV officials who will investigate and act accordingly.

If teams wish to proceed with an official complaint they will be provided the appropriate documentation.

11.3 Penalties

A team that breaches any trial regulation including the spirit of competition, will be notified that they are under investigation for an infringement of the competition rules.

A panel of officials will review the incident and apply a penalty, which they consider is consistent with the severity and intent of the infringement.

Incident reviews will be conducted as soon as practical, but in any case will be resolved before the end of the endurance trial.

Penalties may take the form of:

- A warning.
- A “stop and go” penalty.
- A time penalty.
- 50 lap penalty.
- Disqualification of a rider.
- Exclusion from trial results.
- Withdrawal from competition.

