

# **IPRA**<sup>VIC</sup>

[www.ipravic.com.au](http://www.ipravic.com.au)  
*Magazine*

**INSIDE THE**  
**WINTER**  
**EDITION**

**Winton Race  
Report**

**Rd 3 & 4  
Race Data**

*Where do  
IPRA  
members  
live?*

**YEP, HISLOP TAKES ROUND 3 AND 4**

***What is it with  
little racing?***



## **Technical**

*Is your rear end stressed?  
Well, we have a look....*

**NEED TO TOW  
AT 100MPH?  
MERCEDES  
DID. IN 1955...**

**Free!**

**Winter/Spring 2018  
[www.ipravic.com.au](http://www.ipravic.com.au)**





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## From the President



Well its offically here, winter that is, it's cold, its dark, it's wet and it's windy, a good time to crank up the heater in the shed, or sit inside in front of the fire.

By the time you read this, round four of the State round at Sandown would have been run and won, looking at the entry list we have a good turnout which is fantastic and even better is that we have some new names and faces.

This shows the strength and appeal to the club with a never ending turnaround of some in and some out. A rotating door is the norm for any heathy club of any type. Our membership is sitting a very heathy 130 members which for this time of the year is great. We continue to welcome new competitors with open arms and hope they feel welcome in our club.

Last time I spoke Bathurst was on the cards - well its official – we will have an IPRA grid at Easter and I think this will shape up to be great event and excellent timing for our category.

Don't forget the Nationals at the BEND in Tailem Bend South Australia on 9 – 11 November! This promises to be a biggie (but want nationals are not big???) and early reports of those that have already experienced the track indicate great racing is guaranteed at this brand new circuit. Registrations are now open. To help with planning, the hosting club, IPRA SA, would appreciate your early commitment if you are planning on entering. We know only too well how hard it is to organise an event of that size and your co-operation in early entries will be of a great help to them. Please go to <http://www.iprasa.org.au/nationals> for all relevant information and to register. Various packages are available depending on the type of garage/ marquee that you want. The Paddock Marquee entry at \$895.00 represents great value including Friday practice and two days of racing.

We are having a bit of a change to the club general meeting venue for the rest of this year and are moving to the Wantirna Club. Facilities here are excellent with an opportunity to grab a great meal at the bistro before the meeting and then you can head upstairs to the meeting room to find out the latest news. Our next meeting is on Wednesday 15<sup>th</sup> August – meeting will commence at 8.00pm. If you wish to join our group for dinner before the meeting, please contact me and I will add you to a booking. Hope to see you all there!

Please save the date for our AGM, also to be held at the Wantirna Club, on Wednesday 31 October. This is the meeting where annual reports are presented and the 2019 committee will be composed. More information will follow on this but now would be a good time to consider if you would like to join the committee and have a say in the administration and direction of the club. Please note, presentations of annual awards will not be done at the AGM, but will be presented at the season launch to be held in February (date to be advised soon).

Now to some serious stuff Winton has run and won in some very challenging conditions, with the final race of the weekend being the only dry run we had. On the up side, there was some very skilful driving and car control which was fantastic to watch on a very wet and slippery track. We saw a great turnout of under 2.0 litre cars, perfectly suited for the twisty turns at Winton. However, on the down side, we had a number of competitors forgetting to engage the brain when they engaged first gear on the starting grid which led to a lot drivers passing under yellow flags on the first lap. This sort of conduct is out of character for us as a group and was quite frankly, embarrassing for the category. The breaches led to disqualifications, fines, general unrest and a stern talk from officials at a specially called drivers briefing Sunday morning.

I would like to point two things out, firstly, this is a serious offence and failure to adhere to these rules put the safety of other drivers, yourself and the officials, in jeopardy. You just never know what's on the track or who's on the track when a safety car and yellow flags are being shown and it is your responsibility to heed the flags and act accordingly. The second thing to point out is how to behave when if you do make a mistake. General rule of thumb is, if you do something wrong (and of course, we are humans and we all get it wrong sometimes) the best thing to do is go see the Clerk of Course and admit to your sins. How many times in drivers briefing do they say "come and see us if you do something wrong"???? If this is done, chances are your outcome will be much more favourable than when officials come looking for you. There will still be a penalty but most likely, minimum penalty will be imposed if you own up and admit being at fault. However, if you are called



up and presented with a charge, you generally have two options, to fall on your sword and take what's coming to you, or, disagree and head to the stewards room. This second scenario becomes more serious, and is not dissimilar to a court room. If you can prove your innocence, and I mean with video evidence, then you walk scott free. But if you don't have proof you will probably walk out with a bigger penalty than what you got from the Clerk of Course. Of course, you have the right and option to still disagree with their decision, but good luck with that process!

This is what happened at Winton, and there were a lot of different penalties handed out due to scenarios as outlined above. Of course, much scuttlebutt has been bandied about in regard to the different types of penalties that we imposed, so I hope this clears up the reasons for this.

One other thing I would like to bring up is driver behaviour both on and off the track. Our club is proud to have very clean racing and a great camaraderie amongst our competitors – that is the way we want it to stay. IPRA is a “NO AGRO ZONE” and such behaviour will not be tolerated. If there is something that is bothering you, or if an incident has occurred, please come and talk to me, or another member of the committee (if it's about me haha). We are there to help, and hopefully can help clear things up a little, most times it just a misunderstanding.

Okay, enough of the stern talking – on a brighter note Peta, myself and our two girls had a three week rush around France and Spain when the last Phillip Island round was run. We managed to fit in two days at the Barcelona F1 Grand Prix to cheer on our man, Daniel Ricciardo, and

it was a highlight of the holidays in my eyes. There were so many passionate supporters wearing all the war colours of the different teams fantastic to see. The track was some 40 minutes from Barcelona but a flawless public transport system with a never ending stream of shuttle buses transported the thousands of spectators in and out of the track in precise and swift manoeuvres. The track was very interesting and with great elevation and undulation, much more than I expected.

We took a look in the Renault store on Champs Elysees in Paris – had a sit in an ex Formula 1 car and yep, at my height, I was never going to be an F1 driver! I looked in awe at the Lambos, Ferraris and Maseratis that seem to be common place driving around the crazy roundabout at the Arc de Triomphe in Paris. Once we left Paris, we hired a Peugeot 4006 and drove almost 2000km throughout France and Spain. The descent from the mountains down into San Sebastian would have been much more fun in the Group A. We manoeuvred around the countryside and down one way streets (mostly the right way) and spent a load on tolls. The standard of driving etiquette on the motorway was something to be seen.....no idiots sitting in the left lane (the fast lane in Europe) unlike what we see here in Aus. We saw some great sights and it was a great experience. Yep, now it's back to work to pay off the trip!

See you at the track

Pistons Rule

AKA

*Gary McKay*



## From the editor



Hi Everyone!

Was great to see some of you at Sandown on the Saturday. Glad I had a coat! Thought it was a bit concerning to see 6 cars racing in Sports Cars.

The Winter mag contains race reports for both Winton and Sandown. Thanks to Luke Grech-Cumbo for providing a hand with race reports this year.

I have started a profile series involving a brief summary of the cars in IPRA, starting with the RX7.

The winter technical article runs through an example why standard road car components often break when the car goes on to a race track. Although obvious in some respects, I've attempted to explain the science and mathematics behind it.

Happy reading and stay safe everyone. On and off the track...

*Jason Fankhauser*



**VICTORIAN STATE CIRCUIT RACING CHAMPIONSHIPS 2018**  
40TH ANNIVERSARY VSRS 1978-2018

**EXCEL CHAMPION 2017 - NATHAN BLIGHT**

**FORMULA FORD 1600 CHAMPION 2017 - BRENDAN JONES**

**FORMULA FORD 1600 CHAMPION 2017 - LIAM MCLELLAN**

**FORMULA VEE CHAMPION 2017 - MATT HOLMES**

**HISTORIC TOURING CAR CHAMPION 2017 - DANIEL COTTERILL**

**HOLDEN CHAMPION 2017 - GLEN McDONALD**

**IMPROVED PRODUCTION CHAMPION 2017 - MICHAEL CRUSE**

**MG SERIES WINNER 2017 - PHIL CRESTER**

**PORSCHE 914 CHALLENGE CHAMPION 2017 - CAMERON BELLER**

**SALOON CAR CHAMPION 2017 - DAMIEN MITCHELL**

**SPORTS CAR CHAMPION 2017 - MATT STOUPAS**

**SPORTS SEDAN CHAMPION 2017 - MICHAEL ROBINSON**

**ROUND 1 - SANDOWN MAR 2 - MAR 4**  
David Vernal - davidvernal@bigpond.com

**ROUND 2 - PHILLIP ISLAND MAY 5 - MAY 6**  
Geoff Bull - geoff.bull@piarc.com.au

**ROUND 3 - WINTON JUN 16 - JUN 17**  
VSRS - vsrs3three@gmail.com

**ROUND 4 - SANDOWN JUL 20 - JUL 22**  
Gale Smith - Galeesmith@hotmail.com

**ROUND 5 - PHILLIP ISLAND SEP 29 - SEP 30**  
Michael Holloway - vsrctfive@gmail.com

**ADMISSION ALL ROUNDS - WEEKEND PASS \$30 - SUNDAY PASS \$25  
SATURDAY PASS \$20 - KIDS UNDER 16 FREE**



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## IPRA Vic Calendar

WHEN	WHAT
20-22 April	Supercars WD-40 Phillip Island 500
4-6 May	Supercars Perth SuperSprint*
<b>5-6 May</b>	<b>Round 2 – PIARC – Phillip Island</b>
10-13 May, 2018	Shannons Nationals Round 2: Sandown
18-20 May	Supercars Winton SuperSprint*
1-3 June, 2018	Shannons Nationals Round 3: Phillip Island
15-17 June	Supercars CrownBet Darwin Triple Crown
<b>16-17 June</b>	<b>Round 3 – VSRS Inc – Winton</b>
6-8 July	Supercars Watpac Townsville 400**
20-22 July	Supercars Coates Hire Ipswich SuperSprint*
<b>21-22 July</b>	<b>Round 4 – ASSA Vic – Sandown</b>
24-26 August	Supercars The Bend SuperSprint
28-29 July, 2018	Shannons Nationals Round 4: Queensland Raceway
4-Aug	Supercars Red Rooster Sydney SuperNight
1-2 September, 2018	Shannons Nationals Round 5: Winton
<b>12 September</b>	<b>IPRA Vic Committee Meeting</b>
14-16 September	Supercars Sandown 500**
21-23 September, 2018	Shannons Nationals Round 6: Sydney Motorsport Park
<b>29-30 September</b>	<b>Round 5 – VMCI – Phillip Island</b>
4-7 October	Supercars Supercheap Auto Bathurst 1000**
19-21 October	Supercars Vodafone Gold Coast 600*
<b>31 October</b>	<b>IPRA Vic Annual General Meeting</b>
2-4 November	Supercars ITM Auckland SuperSprint
23-25 November	Supercars Coates Hire Newcastle 500**



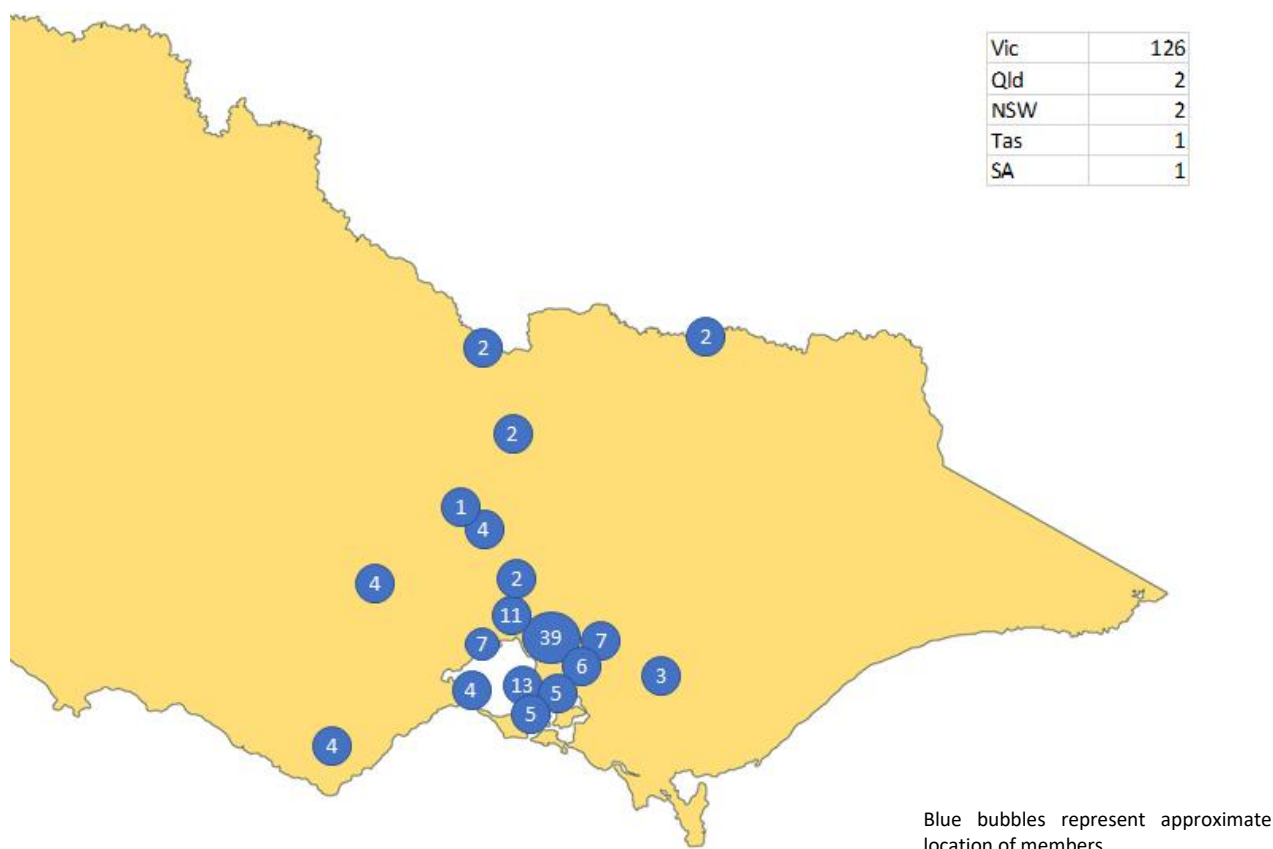


## 2018 Point Score

Under 2L

Entrant			Round 1 Sandown	Round 2 Phillip Island	Round 3 Winton	Sandown Round 4				Champ. Total
Driver	Car	Cap				R1	R2	R3	Rd 3	
Vel Tomic	Honda Integra R	1998	120	64	94	40	24	40	104	382
Paul Grziwotz	Honda Civic	1998	60	100	78	24	40	30	94	332
Bryson Lloyd	Toyota Celica	1796	52	64	110	16	16	20	52	278
Stephen Zourkas	Subaru BRZ	1998	40	94	52	20	20	24	64	250
Kevin Coulson	Honda Civic	1998	30	32	0	30	30	0	60	122
Matthew Leoncini	Nissan Pulsar	1600	0	32	32	12	12	16	40	104
Blair Coull	Nissan Pulsar	2000	60	0	0				0	60
Mark Baldwin	Honda Civic	1973	28	0	24				0	52
Callum Jensen	Peugeot 306 GT	1998	24	0	0	0	0	0	0	24
Stephen Wan	Honda Civic	2000	0	0	24				0	24
Bruce Henderson	Renault Clio	1998	0	0	0				0	0
Robert Wilson	Suzuki GTI	1298	0	0	0				0	0

Where are our IPRA members based?



## Over 2L

Entrant				Rd 1 Sandown	Round 2 Phillip Island	Round 3 Winton	Sandown Round 4				Champ. Total
Driver	Car	Cap	Class				R1	R2	R3	Rd 3	
L Grech-Cumbo	HSV VX Senator	5700	3J(b)	96	100	44	30	30	30	90	330
Robert Braune	BMW 325i E30	2860	3J(b) 2-3l	88	110	0	6	24	16	46	244
Ray Hislop	Ford BF Falcon	6000	3J(b)	0	0	120	40	40	40	120	240
David Cocks	Vk Commodore	6000	3J(a)	90	32	24	1	8	24	33	179
Andrew Morris	VH Commodore	5600	3J(a)	30	68	6.6	8	16	12	36	140.6
Mathew Logan	VE Commodore	6000	3J(b)	64	15	19	16	12	8	36	134
Tony Moloney	HOLDEN HQ	5700	3J(a)	24	46	34	0	0	0	0	104
Adrian Taranto	Audi S3	3200	3J(b)	3	18	70	1	2	1	4	95
Tony Groves	Mazda RX7	2354	3J(a)	0	0	84				0	84
Andrew Butcher	BMW M3	3200	3J(b)	0	52	21				0	73
Paul Rule	Holden Torana	5000	3J(a)	0	0	0	24	20	20	64	64
Peter Dixon	VZ Monaro	6000	3J(b)	1	34	0	12	6	6	24	59
Craig Caspersz	MAZDA RX7	2354	3J(a) 2-3l	4	7	14	4	1	2	7	32
Danny Pullens	S14 Silvia	3400	3J(b)	28	0	0				0	28
Ashley Wright	VE Commodore	6000	3J(b)	0	0	0	20	0	4	24	24
David Reaburn	Mitsubishi Evo	3400	3J(b)	0	0	20	1	1	1	3	23
G McPherson	VE Commodore	6000	3J(b)	20	0	0				0	20
David Levy	BMW M3 E46	3200	3J(b)	13	0	0	1	1	1	3	16
Brad Wyatt	VX Commodore	6000	3J(b)	1	0	8	2	4	0	6	15
Stephen O'Neill	Mits. Lancer	3400	3J(b)	12	3	0				0	15
Gary McKay	Torana XU1	3300	3J(a)	13	0	0				0	13
Malcolm Henley	Mazda RX7	2354	3J(a) 2-3l	3	3	3	1	1	1	3	12
Wayne Twist	BMW E46	3200	3J(b)	3	2	3	1	1	1	3	11
Jim West	BMW E30	2500	3J(b) 2-3l	3	3	2	1	1	1	3	11
J Kroussoratis	Mazda RX7	2340	3J(a) 2-3l	5	3	0	1	1	1	3	11
C McKee	AU XR6	3998	3J(b)	2	2	3	1	1	1	3	10
Shane Williams	Mazda RX7	2354	3J(a) 2-3l	0	3	6				0	9
Brad Blunt	BMW E36	3200	3J(b)	6	3	0				0	9
Wayne Dekker	Audi 80 Quattro	2600	3J(a) 2-3l	2	3	0	1	1	1	3	8
Tom Prentice	Mazda 626	2500	3J(a) 2-3l	0	0	8				0	8
Richard Opie	Mazda RX8	2340	3J(a) 2-3l	3	5	0				0	8
Paul Vuillermin	EA Falcon	3900	3J(b)	1	2	0	1	1	1	3	6
John Dawson	Holden HQ	5700	3J(a)	0	3	0	1	1	1	3	6
Marco Timperio	Ford Falcon EA	3900	3J(b)	3	0	3				0	6
David Shaw	Falcon ED XR6	3998	3J(b)	3	3	0				0	6
S Gorman	BMW E30 325i	2498	3J(a) 2-3l	3	3	0				0	6
Grant Ogle	Ford Focus	4287.4	3J(b)	1	3	1				0	5
A Johnson	VL Commodore	5700	3J(b)	0	4	0				0	4
Rod Lloyd	Benz 190e	2498	3J(a) 2-3l	0	0	0	1	1	1	3	3
Ian McLennan		5700	3J(b)	0	0	0	1	1	1	3	3
David Bone	Datsun 1600	3400	3J(a)	0	3	0				0	3
Paul Theologou	Commodore VE	6000	3J(b)	0	3	0				0	3
Gary Pearce	BMW 125i	2500	3J(b) 2-3l	3	0	0				0	3
Rolf Mamers	Mazda RX7	2600	3J(b) 2-3l	0	0	0	1	0	0	1	1
A R-Anderson	VN Commodore	6000	3J(b)	1	0	0				0	1
Jamie Augustine	Datsun 1200	3400	3J(a)	0	0	0				0	0
G Kenneday	BMW E30	3200	3J(a)	0	0	0				0	0



## What's news

### Driving etiquette

Wayne Twist forwarded an article on driver etiquette. Here it is!

Pass with care. If you aren't sure you can pull off a move to pass an opponent, then don't do it. Take your time to work out where to make the move. If you are passing someone on the inside of a corner you must have your car at least 1/2 way along side the other car (B pillar) before the car you are passing starts to turn in, to have the right to half the road in the corner, you must hold that inside line on the exit, you cannot run the car to the outside of the track.

If you are passing someone on the outside of a corner you must have your car at least 2/3 along side the other car (A pillar) before the car you are passing starts to turn in, to have the right to half the road in the corner, you must hold that outside line on the exit, you can not turn in on the inside car on the exit. If you do not get this done you must pull back behind the lead car. The car being passed has to give racing room. If you see an opening in the corner, you can then make a pass. But if you make contact you will have to pull back behind the car for you did not get your car up to the (B pillar) before the corner.

### Kelvin

Now 4 years since our dedicated treasurer Kelvin Twist left us. Never forgotten.



## New Toys

### Kyosho 1/10 Nitro Touring Car Corvette



**If you want a bit of fun without the expense, perhaps give a crack at some remote-control cars. The technology has developed to the extreme these days with as much adjustability and science involved as the real thing. Here's some specs on a current machine from Kysho....**

User-friendly with mild control response, the FW-06 is the perfect introduction to GP touring cars and the performance of this amazing machine seems to evolve as your driving technique improves. 2-speed automatic transmission combines with the high-power GXR15 engine to make full use of the power band and maximize performance from KYOSHO's proven shaft-driven 4WD chassis.

With the same rear suspension as the World Champion V-ONE RRR with setting options and maintenance-friendly features only available on the latest racing machines, the FW-06 chassis also meets the demands of expert-level drivers.

All this performance is packed into a fully-assembled Readysset. Equipped with the 2.4GHz Syncro KT-231P transmitter, finding an open frequency is a problem of the past.

In addition to the dual-rate function, the KT-231P also features a failsafe function that automatically reduces the throttle if radio signal is interrupted. Simply switch the power on and you can be on the track and clocking race-winning times straight away.

Rear hubs and lower suspension arms used by the World Champion V-ONE RRR provide incredible setting options and high mechanical grip.



Oil shocks feature aluminium cases and threaded adjusters for stepless tension adjustment of the stylish white springs.



2-speed automatic transmission included as standard makes effective use of the engine's power band. High-strength brake disk holder produces controllable braking power.

- ⌋ Loaded with GXR15 engine with slide carburettor fitted with slow idle adjustment and return spring.
- ⌋ Reliable universal swing shafts included on front.
- ⌋ Turnbuckle tie-rods used for steering rod and rear upper arms for fully adjustable alignment.

- ⌋ KYOSHO's proven centre-shaft drive 4WD provides light control response.
- ⌋ Disk brakes deliver reliable and responsive braking control.
- ⌋ Unique compact recoil starter without one-way clutch realizes lower resistance and starts the engine with a pull on the starter cord.
- ⌋ Equipped with a total of 22 ball bearings for highly-efficient, full-bearing specification.
- ⌋ Fitted with tuned muffler and large air cleaner.
- ⌋ High-grip rubber tires with inner sponge supports are pre-glued onto wheels.
- ⌋ Compatible with many FW-05 parts. \*Not compatible with some parts.
- ⌋ Includes plug heater (batteries sold separately) and fuel bottle.

## A Meme....



## Race Reports

### Round 2, Winton by Luke Grech-Cumbo

A gloomy forecast was the talking point in the days leading up to Round 3 of the Victorian State Circuit Racing Championship at Winton. Thirty cars lined up for qualifying on a patchy drying track that provided a tricky set of challenges for the drivers. The two interstaters, Ray Hislop and Jordan Cox made the best of the conditions to put their cars 1 and 2 on the grid respectively. Tony Groves, the best of the Victorians put his Mazda RX7 on the second row of the grid alongside Andrew Butcher, Luke Grech-Cumbo and Andrew Morris rounding out the 3<sup>rd</sup> row. Tomic was the first of the under 2ltr Victorians qualifying in 8<sup>th</sup> place.

Race 1 was heeded with a warning on the dummy grid about oil on the track between turns 1 and 3 from a massive rollover in the Hyundai race before. A clean start down into turn 1 was as far as the race ran before a yellow flag and safety car was brought out to recover Luke Grech-Cumbo's car after breaking a diff on the run into turn 1. Unfortunately six cars missed the yellow flags and continued racing around the circuit for the remainder of the lap with all 6 drivers being excluded from the race and being forced to start from the back in race 2.

On the restart it was a close battle between Cox and Hislop, with Hislop crossing the line ahead of Cox only to be handed a 5 second penalty for weaving behind the safety car after the lights went out. The final result being Jordan Cox finishing in first place ahead of Ray Hislop and Tony Groves.

Adrian Taranto and Tony Groves had a run with Ray Hislop down into turn 10 with Taranto being squeezed off the road and taking a tour of the infield on lap 5, rejoining in 9<sup>th</sup> place and driving back up to 4<sup>th</sup> place.

Tomic led the Victorian 2ltrs home in 6<sup>th</sup> place ahead of Bryson Lloyd in 7<sup>th</sup> place and David Reaburn in 12<sup>th</sup> place.

Sunday morning brought us similar conditions to Saturday with the cars gridding up on a wet track for race two. A clean start was enjoyed by everyone with Taranto and his AWD Audi leading the field away into turn one with Jordan Cox and Ray Hislop running in second and third. Ray Hislop

take the lead on lap 6 with Cox following past the Audi of Taranto, the trio finishing in that order with Hislop crossing the line with Cox 12 seconds behind after Cox had a last lap spin challenging for the lead into the penultimate corner.

Tony Groves finished in 4<sup>th</sup> place with Luke Grech-Cumbo in fifth place with a recovery drive from 25<sup>th</sup> on the grid. Peter Dixon was the only casualty after breaking his steering rack in contact with another car in the latter stage of the race.

Race three the conditions finally improved and a mostly dry track greeted the field as the cars lined up. The dry conditions favoring the big horsepower of Hislop who outran Cox in the drag race into turn one with Hislop never being challenged all the way to the finish crossing the line with a three second lead at the checkered flag over Cox.

The safety car was deployed on lap five to recover the stranded car of Brad Wyatt after his diff failed while running in ninth place.

Grech-Cumbo was lucky to get home while making up one spot to finish fourth after developing a misfire through the race while being pushed Andrew Morris who had a great run in his VH Commodore to finish in fifth place on track.

David Cocks, Bryson Lloyd and Velibor Tomic had a coming together at turn one on the restart with Tomic running wide through the infield and rejoining at turn two.

Andrew Butcher was a retirement in the final race after breaking a gear selector on lap four, ending a tough weekend for him after a spin in race two damaged the gearbox crossmember.

The varying conditions across the weekend providing action and passing in all three races across the weekend with close racing by many different cars was fantastic. Two rounds left in the championship still to come and we hope to see you all at Sandown for round 4.





## Round 4 - Sandown

Was pretty easy to look like a popular category at Sandown when some fields had 10 entry's and Sport Cars had 7. Anyway, IPRA had 34 eager participants show up for qualifying which lead to Luke Grech-Cumbo taking out the best time with a 01:18.80, pipping Ray Hislop to pole who had a best of 1:19.14. Grech-Cumbo was as excited as you could imagine, as he witnessed the Falcon of Hislops go bang underneath when a drive shaft sheared off, limited his qualifying season. Robert Braune in his super BMW E30 managed a 1:20.87 securing 6<sup>th</sup> position within a V8 powered top ten.

With all qualifiers starting race 1, Luke Grech-Cumbo got off to a good start before Ray Hislop's tyres came up to temperature which saw him move into top spot where he stayed for the remainder of the race. On a side note, the Stewards would not have been happy with the warmup formation, where the front runners entered Dandenong corner, while entrants were still coming on to the circuit from the dummy grid.

Grabbing third behind Grech-Cumbo was Paul Rule in the stalwart Torana who managed to keep in front of the newly

built VE Commodore of Ashley Wright. A point of interest from race 1, was the duels between various class cars of Reaburn, Paul Grziwotz, John Dawson, Wayne Twist, Malcom Henley and Rolf Mamers who's fastest lap times were separated by a mere 0.4 seconds. Notable drive of the round goes to David Cocks who started 7<sup>th</sup> and by the 2 lap was in 4<sup>th</sup> before having a slip onto the green stuff before the straight. Falling to 30<sup>th</sup>, he finished 23<sup>rd</sup>. No big deal some would say, other than he was driving with a broken foot!

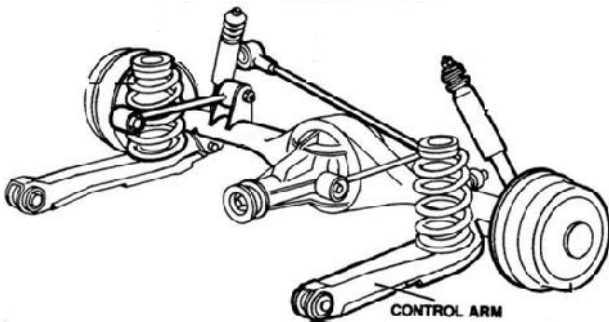
Hislop got all his stars to align for Race two, allowing his Falcon and he to pull of a lap record of 01:14.56R. Pretty impressive when you compare the time with the Sport Cars on the day.

With the safety car deployed, a repeat of Winton threatened with the participants David Reaburn and Velibor Tomic being penalised by 30s for passing under the waving yellow/SC flags. Race two finished off with the order of Hislop, Grech-Cumbo, Braune, Rule and Andrew Morris in the VH Commodore.

Race 3 ended up with a top 5 of Hislop, Grech-Cumbo Cocks, Rule and Braun.



## Technical



We've all seen it, if not experienced something break on a race car. Engines, gearboxes, drive shafts, clutches, etc. are all reasons for dropped lower lips. Fortunately these sorts of failures usually result in the car rolling to a stop and parking it in a safe spot. Less forgiving componentry at failure includes brake rotors, wheels, steering racks and suspension components.



**Above:** A failure like a ball joint breaking off could be highly dangerous

All these failures have one thing in common... they are contributed to applying loads to things for which they are not designed to carry. Many would argue no explanation is needed as to why your tail shaft has failed, when your new race engine puts out twice the horsepower as a standard one. However.... racers often default to such a verdict, at the risk of missing a true root cause. In the case of a tail shaft it could be imbalance, longitudinal binding, fabrication quality, and misalignment.

What makes engineering an IPRA challenging in some regards is that many components cannot be upgraded or modified. The challenge is that these components are designed with a different set of load assumptions to that of a race car. If the designer was 'lean' and the components only designed to be just fit for purpose, then they have little capacity to endure the higher loads of racing.

Lets look at rear trailing suspension arms. They cannot be replaced or reinforced. However, some late and early model cars had suspension components (including arms) which didn't like being knocked around in normal road use. Take the car to the track, bolt on some good tyres, and these bits are even less happy. To allow for fatigue and to achieve long life, a trailing arm might be designed with a safety factor of 2. That is, its capable of surviving twice the maximum load the arm can see in service.

Now, there are three factors which in a race car greatly increases the load on a suspension arm. Adhesion of the tyre, spring load (if the spring base is on the arm) or spring bind. In Figure XX, the trailing arm can be treated as a beam being bent about the location of the spring. Upgrade your springs, you then increase the bending in the arm. The longitudinal loads generated by the tractive effort of the tyre exert axial compression on the arm. Structural designers call this combined actions, where basically the two loads are ganging up on the poor old arm.

Some Engineering.....

In the diagram below, the imagine the orange line is the arm. It pivots about the LHS where its attached to the body (the black triangle). The green arrow is the force from the drive of the tyre.



Figure 1 - Trailing arm loading from tractive effort

The drive force is compressing the trailing arm. Think of the arm being a plastic ruler. When you push on each end, it buckles (or bends) as per the dotted orange shape.

Now, lets put a spring in it. The blue arrow.

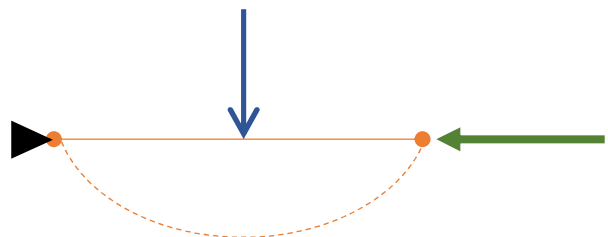


Figure 2 - Trailing arm loading from tractive effort and a spring

So now, our suspension arm is in compression, and bending. They combine and stress our arm so its sweating. That's ok. As that's what's its design for.

But... Now the owner of the arm has decided to do some track work and changed his springs for some on Ebay. They are 150% stiffer than original.

The trailing arm is now loaded to 150% of its original load assumptions. As it was designed with 200% capacity, all good.

Now that the owners cut 5 seconds off her Phillip Island Lap time, she's hungry for more speed and buys some Yokohama A050's from Traction. When hot, they have a coefficient of friction of 1 with weight transfer effects, whereas the original designer assumed the coefficient of friction of a radial tyre in 1977 was 0.8. Our green arrow above has now increased by 20%. In simplistic terms, our orange arm in our 1980 model car is now  $100 \times 1.5 \times 1.2 = 180\%$  utilised. There is sweating a bit, but still safe from a strength perspective. From a fatigue point of view, well, that's a story for another time.



*Above: A buckled rear trailing arm*

Now the owner is addicted, and has joined IPRA Vic, converted the car to IPRA Regs, and commissioned uncle Brian to build a hot new engine. The new engines a ripper, putting out 500ft/lb of torque. The designer adopted a torque of the biggest engine they had at the time which was 370ft/lb. 40% less than the uncle build screamer.

Our orange suspension arm now is loaded by  $100 \times 1.5 \times 1.2 \times 1.4 = 252\%$ . Way past its limit of design.

So, Uncle Brian is standing on the pit roof viewing deck, excitedly listening to his new engine. He gets his Iphone 4 out to video his creation launch the 38 year old car south towards the Tasman. The flag drops, the prewarmed tyres bite, and the RHS suspension arm buckles, steering his niece into the path of a blue Falcon starting at the back of the grid..... splat.

A fictitious end to a technical insight to what we can do to bring tears to our race car components. Recommendations? Know your cars weak points. Nurture them. Inspect them. Respect what you are playing with.

## *In review*

### Mazda RX7

#### First generation (SA22C/FB)



#### Overview

<i>Other names</i>	Mazda Savanna RX-7
<i>Production</i>	1978–1985, 471,018 produced
<i>Designer</i>	Matasaburo Maeda (1976)

#### Body and chassis

<i>Body Style</i>	2 door coupe
<i>Engines</i>	1146 cc 12A 1146 cc 12A turbo 1308 cc 13B RE-EGI
<i>Gearboxes</i>	5-speed manual 4-speed manual 3-speed automatic 4-speed automatic

#### Dimensions

<i>Wheelbase</i>	2,420 mm (95 in)
<i>Length</i>	4,285 mm (169 in)
<i>Width</i>	1,675 mm (66 in)
<i>Height</i>	1,260 mm (50 in)
<i>Curb weight</i>	1,000–1,100kg



## Mercedes Race car transporter

In a time when new freeways are designed for a 80km speed limit, we can take comfort that the world was once a sane place where engineers designed transporters to get you to the track ASAP!

The Mercedes Transporter was designed for a cruise speed of 90MPH on autobahns. Would have shaved 30min off the trip to Phillip Island from Melbourne! Except at that time, Vic autobahns had gravel on them.....

Built in 1955 by Mercedes testing department, it was nick named the 'Blue Wonder'. Unfortunately, it ended up parked for a couple of years, then relocated to a scrap yard. In its deep regret, Mercedes reconstructed a replacement. As you do...

### Specification

- ) Cylinders 6
- ) Displacement 183 cu in
- ) Output 192 hp (141 kW) at 5500RPM
- ) Top speed 106 mph



**Above:** Original Blue Wonder. **Below:** The reconstruct.



# Race Results

## Round I – Winton

### Qualifying

Pos	Car	Driver	Competitor/Team	Vehicle	Cap CL	Laps	Fast	Time
1	23	Ray Hislop	RHM	Falcon BF	6000	3	3	1:31.4846*
2	11	Jordan Cox	Cox Automotive	Honda	2000	9	9	01:32.0
3	80	Tony Groves	Mornington Mazda Racing	Mazda RX7	2340	7	7	01:33.5
4	59	Andrew Butcher	Epilepsy Foundation	BMW E36 M3	3200	11	9	01:34.2
5	25	Luke Grech-Cumbo	GC Electrical / No Fear Securi	HSV Senator	6000	7	7	01:34.3
6	61	Andrew Morris	Twocan Print	Holden VH Commodore	5600	11	11	01:35.8
7	83	Craig Caspersz	HES RACING	Mazda RX7	2354	12	7	01:36.0
8	72	Velibor Tomic	Tomahawk Race Fab Advance Auto	Honda Integra	1998	10	9	01:36.4
9	21	Peter Dixon	Frankston Engine Centre	Monaro V2	6000	8	8	01:36.7
10	43	Mathew Logan	Mack Trucks	Holden VE Commodore	6000	8	6	01:36.9
11	28	David Cocks	Bullas Building Consultants/Mc	Commodore VK	6000	10	9	01:37.2
12	24	Shane Williams	Zenam Racing	Mazda Rx7	2354	12	8	01:37.2
13	3	Tony Moloney	Mt Noorat Freighters	HQ Holden	5700	8	7	01:37.5
14	16	Stephen Wan		Honda	2000	9	9	01:37.7
15	87	Kevin Coulson	CMS Performance	Honda Civic	1998	8	8	01:37.7
16	17	Stephen Zourkas	STZ Constructions / PIARC	Subaru BRZ	1998	12	8	01:38.1
17	48	Brad Wyatt		Holden Commodore VX	6000	8	8	01:38.3
18	56	Malcolm Henley		Mazda RX7	2354	11	11	01:38.4
19	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	9	8	01:38.6
20	41	Mark Baldwin		Honda Civic EG	1998	7	7	01:38.7
21	38	Adrian Taranto		Audi S3	3200	6	5	01:38.9
22	46	Bryson Lloyd	2 State Electrical	Toyota Celica	1798	12	10	01:39.5
23	19	Wayne Twist		BMW E46	3200	12	10	01:39.6
24	14	Cameron McKee	truckrite.com.au / Navarone Pa	Falcon AU XR6	3998	7	7	01:40.7
25	30	Grant Ogle	Laurie Ogle Motors	Ford Focus XR5	2521	11	9	01:41.3
26	47	David Reaburn		Mitsubishi Evo	2000	11	10	01:41.5
27	35	Tom Prentice		Mazda 626	2500	9	5	01:42.0
28	33	Matthew Leoncini	MTL Electrical & Controls Pty	Nissan Pulsar	1598	11	11	01:43.9
29	29	Marco Timperio	Allform Industries	Ford EA	3900	11	4	01:44.9
30	68	Jim West	Yogi Bear Racing	BMW E30	2500	10	10	01:46.1

### Race 1

8 Laps

Start Sat Jun 16 15:09

Elapsed Time 16:00

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	Laps	Fas	Fas Lap
1	11	Jordan Cox	Cox Automotive	Honda	2000	8	6	1:45.5225*
2	23	Ray Hislop	RHM	Falcon BF	6000	8	8	01:48.32
3	80	Tony Groves	Mornington Mazda Racing	Mazda RX7	2340	8	8	01:48.31
4	38	Adrian Taranto		Audi S3	3200	8	7	01:48.02
5	59	Andrew Butcher	Epilepsy Foundation	BMW E36 M3	3200	8	8	01:49.38
6	72	Velibor Tomic	Tomahawk Race Fab Advance Auto	Honda Integra	1998	8	8	01:50.30
7	46	Bryson Lloyd	2 State Electrical	Toyota Celica	1798	8	6	01:52.25
8	43	Mathew Logan	Mack Trucks	Holden VE Commodore	6000	8	8	01:51.63
9	3	Tony Moloney	Mt Noorat Freighters	HQ Holden	5700	8	7	01:49.29
10	28	David Cocks	Bullas Building Consultants/Mc	Commodore VK	6000	8	7	01:51.90
11	47	David Reaburn		Mitsubishi Evo	2000	8	8	01:53.05
12	35	Tom Prentice		Mazda 626	2500	8	7	01:54.39
13	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	8	8	01:52.48
14	48	Brad Wyatt		Holden Commodore VX	6000	8	8	01:52.84
15	17	Stephen Zourkas	STZ Constructions / PIARC	Subaru BRZ	1998	8	8	01:53.74
16	30	Grant Ogle	Laurie Ogle Motors	Ford Focus XR5	2521	8	8	01:55.84
17	24	Shane Williams	Zenam Racing	Mazda Rx7	2354	8	8	01:55.76
18	61	Andrew Morris	Twocan Print	Holden VH Commodore	5600	8	8	01:53.99
19	19	Wayne Twist		BMW E46	3200	8	8	01:56.72
20	14	Cameron McKee	truckrite.com.au / Navarone Pa	Falcon AU XR6	3998	8	8	01:58.61
21	29	Marco Timperio	Allform Industries	Ford EA	3900	8	8	01:58.63
22	68	Jim West	Yogi Bear Racing	BMW E30	2500	7	6	02:06.90
23	56	Malcolm Henley		Mazda RX7	2354	7	3	02:11.37
DNF	33	Matthew Leoncini	MTL Electrical & Controls Pty	Nissan Pulsar	1598	3	3	02:05.82
DNF	25	Luke Grech-Cumbo	GC Electrical / No Fear Securi	HSV Senator	6000			
EXC	16	Stephen Wan		Honda	2000			
EXC	21	Peter Dixon	Frankston Engine Centre	Monaro V2	6000			
EXC	41	Mark Baldwin		Honda Civic EG	1998			
EXC	83	Craig Caspersz	HES RACING	Mazda RX7	2354			
EXC	87	Kevin Coulson	CMS Performance	Honda Civic	1998			

#### PENALTY APPLIED

Competitor# 16 Excluded

Competitor# 21 Excluded

Competitor# 23 5 Seconds Penalty

Competitor# 41 Excluded

Competitor# 83 Excluded

Competitor# 87 Excluded

Fastest Lap Av.Speed Is 102kph, Race Av.Speed Is 90kph

Current Race Lap Record Is 1:29.8996 Set On 18/06/2017 By Christopher Brown In A Toyota AE86 Sprinter



## Race 2

9 Laps

Scheduled Start 10:35

Start Sun Jun 17 10:44

Elapsed Time 16:30

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	CL Laps	Fas Lap	Fas Time
1	23	Ray Hislop	RHM	Falcon BF	6000	9	8	01:45.90
2	11	Jordan Cox	Cox Automotive	Honda	2000	9	8	1:45.3165*
3	38	Adrian Taranto		Audi S3	3200	9	6	01:48.93
4	80	Tony Groves	Mornington Mazda Racing	Mazda RX7	2340	9	6	01:49.48
5	25	Luke Grech-Cumbo	GC Electrical / No Fear Securi	HSV Senator	6000	9	7	01:48.96
6	46	Bryson Lloyd	2 State Electrical	Toyota Celica	1798	9	8	01:50.06
7	3	Tony Moloney	Mt Noorat Freighters	HQ Holden	5700	9	7	01:50.17
8	72	Velibor Tomic	Tomahawk Race Fab Advance Auto	Honda Integra	1998	9	7	01:51.45
9	47	David Reaburn		Mitsubishi Evo	2000	9	8	01:53.14
10	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	9	9	01:53.10
11	28	David Cocks	Bullas Building Consultants/Mc	Commodore VK	6000	9	8	01:53.39
12	48	Brad Wyatt		Holden Commodore VX	6000	9	4	01:54.10
13	33	Matthew Leoncini	MTL Electrical & Controls Pty	Nissan Pulsar	1598	9	4	01:56.29
14	41	Mark Baldwin		Honda Civic EG	1998	9	7	01:54.37
15	35	Tom Prentice		Mazda 626	2500	9	4	01:55.31
16	43	Mathew Logan	Mack Trucks	Holden VE Commodore	6000	9	8	01:53.90
17	61	Andrew Morris	Twocan Print	Holden VH Commodore	5600	9	8	01:57.35
18	17	Stephen Zourkas	STZ Constructions / PIARC	Subaru BRZ	1998	9	6	01:57.51
19	24	Shane Williams	Zenam Racing	Mazda Rx7	2354	8	6	01:59.52
20	19	Wayne Twist		BMW E46	3200	8	7	01:58.43
21	29	Marco Timperio	Allform Industries	Ford EA	3900	8	6	01:57.27
22	59	Andrew Butcher	Epilepsy Foundation	BMW E36 M3	3200	8	3	01:54.14
23	14	Cameron McKee	truckrite.com.au / Navarone Pa	Falcon AU XR6	3998	8	6	02:02.55
24	83	Craig Caspersz	HES RACING	Mazda RX7	2354	8	6	01:59.17
25	16	Stephen Wan		Honda	2000	8	6	01:53.64
26	68	Jim West	Yogi Bear Racing	BMW E30	2500	8	7	02:03.03
27	56	Malcolm Henley		Mazda RX7	2354	8	7	02:03.25
DNF	21	Peter Dixon	Frankston Engine Centre	Monaro V2	6000	7	7	01:51.95

Fastest Lap Av.Speed Is 103kph, Race Av.Speed Is 98kph

### Race 3

10 Laps

Scheduled Start 14:45

Start Sun Jun 17 14:47

Elapsed Time 18:15

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	CL Laps	Fas Lap	Fas Time
1	23	Ray Hislop	RHM	Falcon BF	6000	10	5	1:31.3019*
2	11	Jordan Cox	Cox Automotive	Honda	2000	10	5	01:31.7
3	80	Tony Groves	Mornington Mazda Racing	Mazda RX7	2340	10	4	01:35.1
4	25	Luke Grech-Cumbo	GC Electrical / No Fear Securi	HSV Senator	6000	10	2	01:36.2
5	61	Andrew Morris	Twocan Print	Holden VH Commodore	5600	10	4	01:35.7
6	38	Adrian Taranto		Audi S3	3200	10	3	01:37.5
7	83	Craig Caspersz	HES RACING	Mazda RX7	2354	10	5	01:37.7
8	28	David Cocks	Bullas Building Consultants/Mc	Commodore VK	6000	10	5	01:37.3
9	46	Bryson Lloyd	2 State Electrical	Toyota Celica	1798	10	5	01:39.1
10	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	10	5	01:38.8
11	3	Tony Moloney	Mt Noorat Freighters	HQ Holden	5700	10	4	01:37.0
12	24	Shane Williams	Zenam Racing	Mazda Rx7	2354	10	3	01:39.2
13	47	David Reaburn		Mitsubishi Evo	2000	10	2	01:40.8
14	72	Velibor Tomic	Tomahawk Race Fab Advance Auto	Honda Integra	1998	10	2	01:39.5
15	17	Stephen Zourkas	STZ Constructions / PIARC	Subaru BRZ	1998	10	5	01:39.8
16	43	Mathew Logan	Mack Trucks	Holden VE Commodore	6000	10	2	01:38.8
17	19	Wayne Twist		BMW E46	3200	10	4	01:39.9
18	16	Stephen Wan		Honda	2000	10	3	01:37.8
19	56	Malcolm Henley		Mazda RX7	2354	10	5	01:38.8
20	14	Cameron McKee	truckrite.com.au / Navarone Pa	Falcon AU XR6	3998	10	4	01:41.4
21	29	Marco Timperio	Allform Industries	Ford EA	3900	10	4	01:42.8
22	33	Matthew Leoncini	MTL Electrical & Controls Pty	Nissan Pulsar	1598	10	4	01:45.5
23	41	Mark Baldwin		Honda Civic EG	1998	10	4	01:40.0
DNF	48	Brad Wyatt		Holden Commodore VX	6000	4	4	01:38.8
DNF	59	Andrew Butcher	Epilepsy Foundation	BMW E36 M3	3200	4	2	01:36.5

#### PENALTY APPLIED

Competitor# 61 20 Points Penalty

Fastest Lap Av.Speed Is 118kph, Race Av.Speed Is 99kph

## Round 3 – Sandown

### Qualifying

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	Laps	F/Lap	Time
1	25	Luke Grech-Cumbo	GC Electrical Services No Fea	HSV Senator	6000	5	4	01:18.80
2	23	Raymond Hislop		Ford BF Falcon	6000	4	4	01:19.14
3	43	Mathew Logan	Mack Trucks Castrol	VE Commodore	6000	8	8	01:20.07
4	3	Tony Moloney		Holden HQ	5700	8	7	01:20.14
5	44	Paul Rule	Highbury Automotive Services	Holden Torana SS	5800	8	8	01:20.73
6	86	Robert Braune	Braune Supa Tune	Bmw E30	2860	8	8	01:20.87
7	28	David Cocks	Bullas Building Consultants	Commodore VK	6000	8	7	01:21.17
8	76	Ashley Wright	Brown Davis Motorsport Lance	VE Commodore	5998	7	7	01:21.57
9	61	Andrew Morris	Twocan Print/Radiator Direct	Commodore VH	5600	8	7	01:21.95
10	21	Peter Dixon	Frankston Engine Centre	Holden V2 Monaro	6000	8	8	01:22.18
11	83	Craig Caspersz	H.E.S RACING.	MAZDA RX7	2354	6	5	01:22.62
12	77	David Levy	DAVID LEVY MOTORSPORTS	BMW M3	3	6	6	01:22.93
13	48	Brad Wyatt	Douglas Parade Motors	Commodore VX	6000	8	8	01:22.98
14	38	Adrian Taranto	Team Audvolks	Audi S3	3200	8	4	01:23.56
15	72	Velibor Tomic	Advanced Autotronics / Tomahaw	Honda Integra	1998	8	4	01:23.70
16	56	Malcolm Henley		Mazda RX7	2354	7	6	01:23.70
17	87	Kevin Coulson	CMS Performance	Honda Civic	1998	8	6	01:24.08
18	19	Wayne Twist		BMW E46	3200	8	6	01:24.46
19	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	8	8	01:25.20
20	42	John Dawson		HOLDEN HQ	5700	8	6	01:25.34
21	22	Justin Kroussoratis	Ballarat City Mazda	Mazda RX7	2340	5	4	01:25.52
22	47	David Reaburn		Mitsubishi Evo		8	6	01:25.66
23	99	Rolf Mamers	V-consult	Mazda RX7 Series 3	2316	8	6	01:26.64
24	14	Cameron McKee	Truckrite.com.au / Ausfleet Ca	Ford AU XR6	3998	6	6	01:27.48
25	17	Stephen Zourkas	STZ CONSTRUCTIONS	Subaru BRZ	1998	8	5	01:27.64
26	49	Anthony Johnson	Villawood Properties	BMW M3	3000	7	5	01:28.98
27	46	Bryson Lloyd	2 STATE ELECTRICAL	Toyota Celica	1796	7	7	01:29.41
28	15	Ian McLennan	Pro-Cut Tree Services	Holden VZ Monaro	5700	8	8	01:30.25
29	2	Wayne Dekker	Bay Tech Automotive	Audi 80 Quattro	2600	7	6	01:31.25
30	71	Paul Vuillermin	JD Pro	Ford Falcon	3900	4	4	01:31.56
31	24	David Hassall		Toyota 86 GTS	1996	7	6	01:32.49
32	13	Callum Jensen	MUH Motorsport	Peugeot 306 GTI6	1998	4	4	01:35.43
33	68	James West	YOGI BEAR RACING	BMW E30	2500	7	7	01:35.85
34	10	Rodney Lloyd	Laurie Ogle Motors - Shine Han	Mercedes Benz 190	2498	5	5	01:36.23
	73	Matthew Leoncini		Nissan Pulsar	1596			

Fastest Lap Av.Speed Is 142kph, 130% Of First 1 Is 1:42.4448



# Race 1

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	Laps	F/Lap	F/Time
1	23	Raymond Hislop		Ford BF Falcon	6000	9	4	01:16.72
2	25	Luke Grech-Cumbo	GC Electrical Services No Fear	HSV Senator	6000	9	2	01:19.37
3	44	Paul Rule	Highbury Automotive Services	Holden Torana SS	5800	9	7	01:19.64
4	76	Ashley Wright	Brown Davis Motorsport Lance	VE Commodore	5998	9	4	01:20.40
5	43	Mathew Logan	Mack Trucks Castrol	VE Commodore	6000	9	7	01:20.99
6	21	Peter Dixon	Frankston Engine Centre	Holden V2 Monaro	6000	9	6	01:21.40
7	61	Andrew Morris	Twocan Print/Radiator Direct	Commodore VH	5600	9	2	01:20.50
8	86	Robert Braune	Braune Supa Tune	Bmw E30	2860	9	7	01:19.02
9	83	Craig Caspersz	H.E.S RACING.	MAZDA RX7	2354	9	2	01:22.90
10	48	Brad Wyatt	Douglas Parade Motors	Commodore VX	6000	9	5	01:22.44
11	77	David Levy	DAVID LEVY MOTORSPORTS	BMW M3	3	9	9	01:23.02
12	22	Justin Kroussoratis	Ballarat City Mazda	Mazda RX7	2340	9	8	01:23.50
13	38	Adrian Taranto	Team Audvolks	Audi S3	3200	9	8	01:23.56
14	72	Velibor Tomic	Advanced Autotronics / Tomah	Honda Integra	1998	9	7	01:23.49
15	87	Kevin Coulson	CMS Performance	Honda Civic	1998	9	9	01:23.47
16	47	David Reaburn		Mitsubishi Evo		9	6	01:24.60
17	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	9	8	01:24.67
18	19	Wayne Twist		BMW E46	3200	9	9	01:24.91
19	42	John Dawson		HOLDEN HQ	5700	9	2	01:24.64
20	56	Malcolm Henley		Mazda RX7	2354	9	4	01:24.51
21	99	Rolf Mamers	V-consult	Mazda RX7 Series 3	2316	8	7	01:24.75
22	71	Paul Vuillermin	JD Pro	Ford Falcon	3900	8	6	01:26.35
23	28	David Cocks	Bullas Building Consultants	Commodore VK	6000	8	2	01:21.33
24	15	Ian McLennan	Pro-Cut Tree Services	Holden VZ Monaro	5700	8	5	01:26.33
25	17	Stephen Zourkas	STZ CONSTRUCTIONS	Subaru BRZ	1998	8	8	01:26.51
26	14	Cameron McKee	Truckrite.com.au / Ausfleet Ca	Ford AU XR6	3998	8	4	01:27.49
27	49	Anthony Johnson	Villawood Properties	BMW M3	3000	8	5	01:27.84
28	46	Bryson Lloyd	2 STATE ELECTRICAL	Toyota Celica	1796	8	8	01:28.65
29	2	Wayne Dekker	Bay Tech Automotive	Audi 80 Quattro	2600	8	4	01:29.52
30	24	David Hassall		Toyota 86 GTS	1996	8	7	01:32.38
31	73	Matthew Leoncini		Nissan Pulsar	1596	8	3	01:32.74
32	68	James West	YOGI BEAR RACING	BMW E30	2500	8	6	01:35.19
33	10	Rodney Lloyd	Laurie Ogle Motors - Shine Han	Mercedes Benz 190	2498	7	6	01:35.71
DNF	3	Tony Moloney		Holden HQ	5700	1	1	01:29.04

## Race 2

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	Laps	F/Lap	F/Time
1	23	Raymond Hislop		Ford BF Falcon	6000	11	2	01:14.56R
2	25	Luke Grech-Cumbo	GC Electrical Services No Fea	HSV Senator	6000	11	5	01:19.19
3	86	Robert Braune	Braune Supa Tune	Bmw E30	2860	11	4	01:19.11
4	44	Paul Rule	Highbury Automotive Services	Holden Torana SS	5800	11	3	01:19.33
5	61	Andrew Morris	Twocan Print/Radiator Direct	Commodore VH	5600	11	5	01:20.45
6	43	Mathew Logan	Mack Trucks Castrol	VE Commodore	6000	11	5	01:20.03
7	28	David Cocks	Bullas Building Consultants	Commodore VK	6000	11	4	01:20.60
8	21	Peter Dixon	Frankston Engine Centre	Holden V2 Monaro	6000	11	3	01:21.10
9	48	Brad Wyatt	Douglas Parade Motors	Commodore VX	6000	11	4	01:23.60
10	38	Adrian Taranto	Team Audvolks	Audi S3	3200	11	2	01:23.67
11	83	Craig Caspersz	H.E.S RACING.	MAZDA RX7	2354	11	4	01:21.62
12	22	Justin Kroussoratis	Ballarat City Mazda	Mazda RX7	2340	11	5	01:23.52
13	77	David Levy	DAVID LEVY MOTORSPORTS	BMW M3	3	11	4	01:23.13
14	56	Malcolm Henley		Mazda RX7	2354	11	4	01:23.24
15	19	Wayne Twist		BMW E46	3200	11	5	01:24.28
16	42	John Dawson		HOLDEN HQ	5700	11	11	01:24.28
17	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	11	5	01:25.20
18	87	Kevin Coulson	CMS Performance	Honda Civic	1998	11	5	01:23.63
19	15	Ian McLennan	Pro-Cut Tree Services	Holden VZ Monaro	5700	11	4	01:26.52
20	71	Paul Vuillermin	JD Pro	Ford Falcon	3900	11	5	01:25.57
21	47	David Reaburn		Mitsubishi Evo		11	4	01:23.92
22	72	Velibor Tomic	Advanced Autotronics / Toma	Honda Integra	1998	11	3	01:24.65
23	17	Stephen Zourkas	STZ CONSTRUCTIONS	Subaru BRZ	1998	10	4	01:26.92
24	14	Cameron McKee	Truckrite.com.au / Ausfleet Ca	Ford AU XR6	3998	10	3	01:28.61
25	46	Bryson Lloyd	2 STATE ELECTRICAL	Toyota Celica	1796	10	3	01:29.75
26	49	Anthony Johnson	Villawood Properties	BMW M3	3000	10	3	01:28.60
27	2	Wayne Dekker	Bay Tech Automotive	Audi 80 Quattro	2600	10	4	01:31.10
28	73	Matthew Leoncini		Nissan Pulsar	1596	10	5	01:30.65
29	24	David Hassall		Toyota 86 GTS	1996	10	5	01:31.06
30	10	Rodney Lloyd	Laurie Ogle Motors - Shine Han	Mercedes Benz 190E 2	2498	10	3	01:35.17
31	68	James West	YOGI BEAR RACING	BMW E30	2500	10	2	01:35.38
DNF	99	Rolf Mamers	V-consult	Mazda RX7 Series 3	2316	5	5	01:25.54
DNF	76	Ashley Wright	Brown Davis Motorsport	Holden VE Commodore	5998	3	2	01:18.95

### PENALTY APPLIED

Competitor# 47 30 Seconds Penalty

Competitor# 72 30 Seconds Penalty

Competitor# 83 5 Seconds Penalty

### Race 3

Pos	Car	Driver	Competitor/Team	Vehicle	Cap	Laps	F/Lap	F/Time
1	23	Raymond Hislop		Ford BF Falcon	6000	9	4	01:16.82
2	25	Luke Grech-Cumbo	GC Electrical Services No Fea	HSV Senator	6000	9	8	01:19.39
3	28	David Cocks	Bullas Building Consultants	Commodore VK	6000	9	8	01:19.71
4	44	Paul Rule	Highbury Automotive Services	Holden Torana SS	5800	9	4	01:19.01
5	86	Robert Braune	Braune Supa Tune	Bmw E30	2860	9	4	01:19.57
6	61	Andrew Morris	Twocan Print/Radiator Direct	Commodore VH	5600	9	9	01:21.18
7	43	Mathew Logan	Mack Trucks Castrol	VE Commodore	6000	9	9	01:20.61
8	21	Peter Dixon	Frankston Engine Centre	Holden V2 Monaro	6000	9	3	01:21.64
9	76	Ashley Wright	Brown Davis Motorsport Lance	VE Commodore	5998	9	4	01:20.04
10	83	Craig Caspersz	H.E.S RACING.	MAZDA RX7	2354	9	4	01:22.68
11	38	Adrian Taranto	Team Audvolks	Audi S3	3200	9	7	01:23.92
12	42	John Dawson		HOLDEN HQ	5700	9	5	01:24.10
13	19	Wayne Twist		BMW E46	3200	9	4	01:23.89
14	77	David Levy	DAVID LEVY MOTORSPORTS	BMW M3	3	9	7	01:23.72
15	71	Paul Vuillermin	JD Pro	Ford Falcon	3900	9	3	01:24.40
16	47	David Reaburn		Mitsubishi Evo		9	7	01:24.46
17	72	Velibor Tomic	Advanced Autotronics / Toma	Honda Integra	1998	9	7	01:24.12
18	22	Justin Kroussoratis	Ballarat City Mazda	Mazda RX7	2340	9	5	01:23.71
19	45	Paul Grziwotz	Electrical Automation Solution	Honda Civic	1998	9	5	01:25.47
20	15	Ian McLennan	Pro-Cut Tree Services	Holden VZ Monaro	5700	8	4	01:26.02
21	56	Malcolm Henley		Mazda RX7	2354	8	5	01:25.89
22	17	Stephen Zourkas	STZ CONSTRUCTIONS	Subaru BRZ	1998	8	4	01:26.98
23	14	Cameron McKee	Truckrite.com.au / Ausfleet	Ford AU XR6	3998	8	5	01:27.48
24	46	Bryson Lloyd	2 STATE ELECTRICAL	Toyota Celica	1796	8	4	01:27.47
25	49	Anthony Johnson	Villawood Properties	BMW M3	3000	8	8	01:29.06
26	2	Wayne Dekker	Bay Tech Automotive	Audi 80 Quattro	2600	8	6	01:29.48
27	73	Matthew Leoncini		Nissan Pulsar	1596	8	8	01:29.85
28	24	David Hassall		Toyota 86 GTS	1996	8	4	01:32.32
29	10	Rodney Lloyd	Laurie Ogle Motors - Shine Han	Mercedes Benz 190	2498	8	7	01:34.14
30	68	James West	YOGI BEAR RACING	BMW E30	2500	8	3	01:35.00
DNF	48	Brad Wyatt	Douglas Parade Motors	Commodore VX	6000			