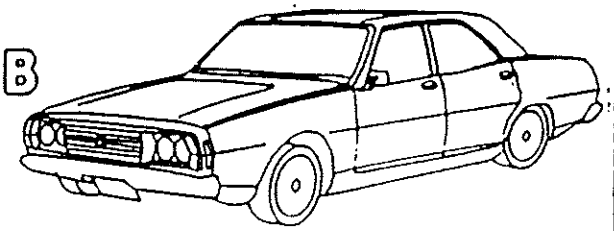
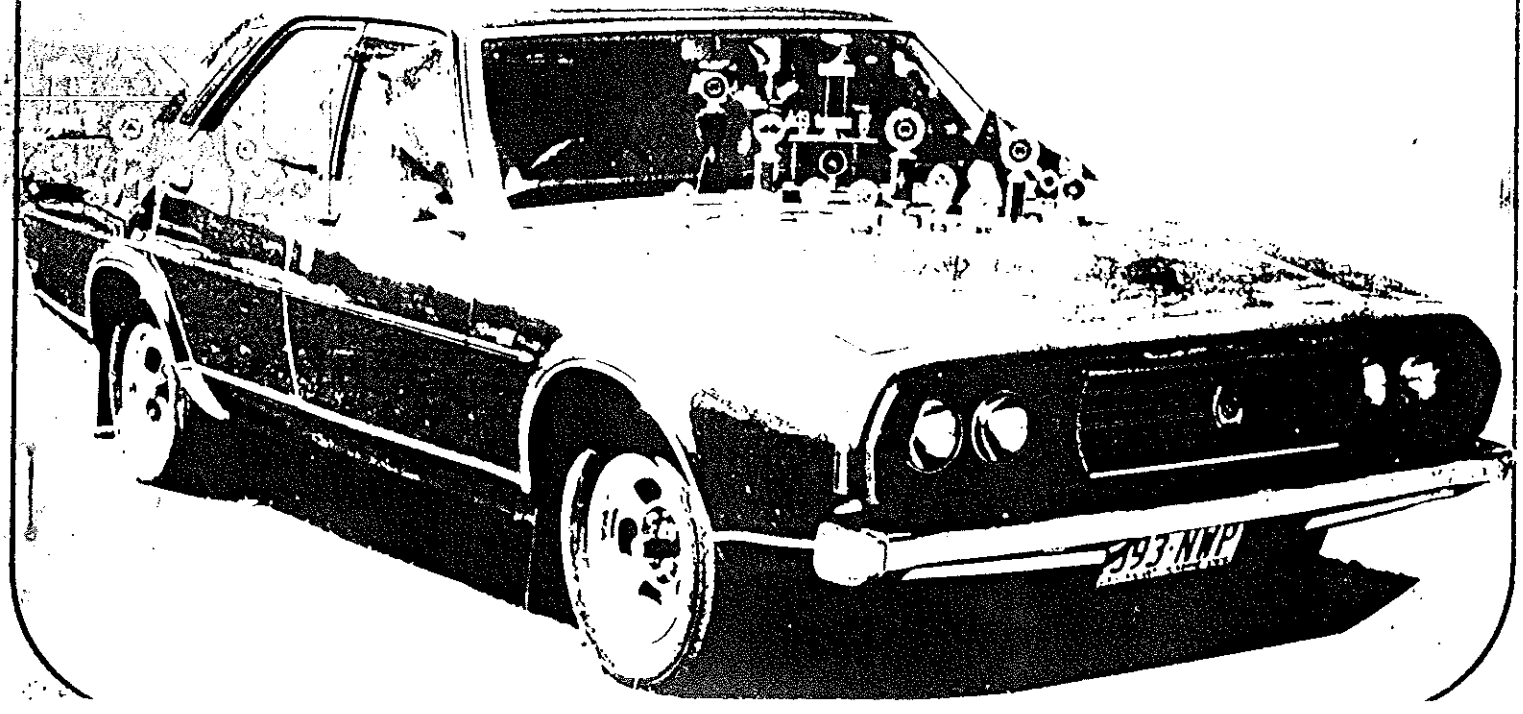
P.O. BOX 343
CARINA 4152

# QUEENSLAND P76 OWNERS CLUB INCORPORATED



## September 1993

# 20TH ANNIVERSARY



## EDITORIAL

September already. It will soon be Christmas.

Well our August outing to The Wool Sheds, turned out to be a ripper.

for those of you who haven,t yet heard, We once again took out the trophy for the best club display. In the ten years this trophy has been going our club has won it Four times, which I think says a lot for the togetherness of the club.

I heard on the grape vine that there was only half a point between us and our closest competitors. Well done Guys and the wives who helped with the polishing etc.. Of course our biggest draw card was Allens wreck. Yes he had even polished it for the occasion. Our President Haroon is looking after the trophy, so if you want to see it come along on the 19th of September to the Callenge of 76.

Well subs were due at the end of June, s anyone not financial will not be receiving this newsletter. So far 43 members have rejoined. So we are almost back to last years figures.

See you on the 19th

Pat

## Treasurers Report for August 1993

| | | | |
|---|---|---|---|
| Balance as per previous report | | | 969.42 |
| Plus receipts : Membership Subscriptions (16 including 2 New Members) | | 510.00 | |
| Sale of Spare Parts - used | | 155.50 | 665.50 |
| | | | 1634.92 |
| Less Expenses : Purchase of Spare Parts | | 250.00 | |
| Annual Return to Justice Dept. | | 19.00 | |
| Newsletters | | 27.00 | |
| Postage | | 65.05 | |
| Stationary | | 31.10 | |
| Payment to Endeavour Foundation (Car Rally) | | 10.00 | |
| Renew Petty Cash Floats. | | 100.00 | 502.15 |
| | | | 1132.77 ✓ |
| Reconciliation to cash at Bank | | | |
| Statement No. 48 as at 31AUG93. | | | 1284.92 |
| Less Credit (Excess Deposit) | | | 52.15 |
| | | | 1232.77 |
| Less Unpresented Cheques : | 000078 | 60.00 | |
| | 000079 | 40.00 | 100.00 |
| | | | 1132.77 ✓ |
| Petty Cash - P. Rogerson (chq. 75) 11AUG93 | | 50.00 | |
| - M. Schutz (Chq. 80) 23AUG93 | | 50.00 | 100.00 |
| | | | 1232.77 |

# Minutes of the Meeting held on 8th September 1993

The President opened the Meeting at 8.15 pm and welcomed everyone.

APOLOGIES : P. Rose, M. Schutz & D. White.

MINUTES : Minutes of the previous Meeting held 11th August 1993 were read by the Treasurer and accepted by M. Erickson and seconded by H. Probst.

TREASURERS REPORT : Balance of the Previous Report 30JUL93 was ....969.42
Balance as at 31AUG93 ... 1132.77
Moved and accepted by G. Rogerson and seconded M. Erickson

BUSINESS ARISING : Presidents Challenge - outing confirmed for 19SEP93.
Parts (new) have been collected for $250 and stored in the Parts Shed.
6 Cylinder Parts still to be collected. G. Rogerson to arrange.

INCOMMING CORRESPONDENCE : P76 magazines received from WA, Sydney & Hunter Valley
letter from L. Wegemund enclosing additional membership fees.
letter from J & M Wilson enclosing additional membership fees.
letter from P76 Sporting Car Club of Australia.
Stonemans Engineering - Aluminium Spray eg. extractors.

OUTGOING CORRESPONDENCE : letter and cheque for Hall Rent.
letter and cheque to Association of Motoring Clubs.
letter of thanks to Goldies Body Works.
letter to Peter Le Cerf inviting to Demonstrate his Ultra Bond Product at one of our meetings.
letter to Mrs Joy Furminjer and enclosing Application Form.
letter to David Morton in England, enclosing 12 Photo's.

GENERAL BUSINESS :

30OCT93 is the date set to price Parts at the Rogersons.
24OCT93 proposed outing to Toowoomba to meet the locals.
28NOV93 proposed BBQ for the End of Year Get-together of Members. - suggested Botanical Gardens - Mt Nebo area.
General Discussion and a look at John Wakemans newly painted P76.

MEETING CLOSED : at 9.25 pm.

## For Sale

Executive V 8 Navy Blue
Goes O K. No Rego. Some Minor rust. Seats material (tatty)
Contact Graham Fitzgerald. Lismore 066 241404 $900-00

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De- Lux 6 Cylinder White
Runs O K. No Rego Some minor Rust $300-00
Graham Fitzgerald Lismore 066 24 1404

FOR SALE

Aspen Green Super V 8 Auto.
Motor and Gear box were reconditioned in June 92
Discs Recently machined New Radiator
Interior Good Body Excellent except for rust in rear sub frame
Sell unregistered. $1300-00 ono
Mick Davies 16, Townson Avenue Palm beach.

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P 76 Executive, Auto V8 Red with white top
Motor O K. Transmission O K . Brakes O K. Suspension O K
Little rust in body near back window. Interior frayed.
Also P 76 Body. Complete. Probably worth saving. Sell both together.
Russel Bevan, 074 268 297.
Cars at 23, Clyde road. Hurston phone Bill 356 1126

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P 76 V 8 Auto. Country Cream Super
Factory air. Immaculate body and paintwork. Interior Tidy.
Good Rubber. Motor only done 120,000 Kms Offers
Phone G. West 8, Vanda street. Burada. 391 6494.
Phone afetr end of month 071 244 578. (Hervey Bay)

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Super V8. 4 speed on floor. 4 barrel carby. Holden Pistons.(Really Goes)

Near new rear axle & Diff assembly. Heavy duty sway bar. Mag wheels Good Rubber

New Bumpers and Rear tail lights. Tow bar. Extra Guages.

New carpets ,Headlining and Ubholstery. Body needs work and paint.

Excellent car for enthusiast to restore.

(will include new Rear Louvre or front blinker lenses)

$1500-00 neg phone Allan Schutz 202 1054.

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Don,t forget your club has plenty of parts available at the right price to club members only.

| | |
|---|---|
| New parts: Rear Louvres | $98-00 |
| Weather shields Right and Left | $ 30-00 |
| Top gasket sets | $65-00 |
| Bottom gasket sets | $25-00 |

For any of these Phone Graham 888 1345

SOCIAL CALENDAR

Sunday 9th September

Presidents challenge.

Starting time 9-00 am Ampol service station, Cnr Mark Lane & Chambers flat rd Marsden. This service station is the start point and also the refueling point at the finish .

The event is to be an economy run with about 20 Questions thrown in to releive the boredom.

To avoid getting lost A bring your own Bar B Q will be at Hxroons place at lunch time. If you can,t make the full day, come along and join us for lunch. at 58, Mark Lane Waterford West.

Sunday Oct 24th

Trip to Toowoomba. to get together with the members in that area. Meet at Gailes Shell Roadhouse at 9-00 am. to travel in convoy.

Sunday Nov 28th

Christmas break up party. This year it was decided to make a change, and try a lunch time get together. The club will proide all the food. but as yet a venue has to be decided. We were looking for something central but not too crowded. Any Suggestions ???

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Easter Get Together 1994

Venue; Caboolture caravan park

Plenty of powered and unpowered sites. No Overnight vans

Cabins available. $30-00 for one person plus $5-00 each extra person. will accommodate 6 people.

Venue; Sundowner Hotel;

$40-00 per single room. $47-00 per double. $60-00 per triple room.

Family rooms $75-00

Venue; Caboolture motel

$49-00 per double room

Self contained family units for 3-4 People $89-00.

The rates given are current but will be a little higher next Easter. If you wish to make bookings you can do it direct. Or ring me and I will organise this.

Pat Rogerson 07 888 1345

# KEEPING IT COOL ?

by MIKE CHADWICK
VICTORIA club

When I first started assembling information for this article, well over a year ago, I never thought it would take so long or be so difficult to write.

I started it because I was dissatisfied that so many P76 V8 owners, including myself, have had so many instances of the temperature gauge indicating that the heat in the engine is becoming worryingly high on hot/very hot days, when everything is set up "as per the book." It seemed to me incongruous with the fact that, during development stages, the Works had no overheating problems with the P76 V8 engine. So I determined to find an explanation.

While working through the details, I worked and experimented on my own car, which has always been inclined to run hotter when given the slightest excuse, even in cool Victoria! I have maintained two P76 engines which behave themselves perfectly with 82C. thermostats in situ, but not the ones in my car. The engine has done about 15,000 miles since rebuild, and has been deliberately set up with a standard radiator and yellow four blade fan with the standard shroud. It runs mainly on L.P.G., fed through a 350cfm Holley carb. and adaptor. Ignition is Bosch and electronic, with a standard curve and a, now unavailable, MSD Dual Curve.

The important information about development, in this article, has been given to me by someone who was involved with P76 engines at their development stage. He wishes to remain anonymous for personal reasons.

**VERY HOT DAYS** are the days that test every part of the engine's cooling system. If the car is moving, the ram effect of air helps cooling. But if the car is standing in heavy traffic, hardly able to move, the lack of air movement through the radiator may bring about a situation where the heat production of the engine can exceed the capacity of its cooling system to dissipate sufficient heat.

Assuming that the radiator is internally clear and efficient, its effectiveness as a cooling agent is reduced on two counts, the first being more important:

1) The ambient temperature is closer to the surface temperature of the radiator, i.e. the heat differential is reduced. Therefore, proportionately more air must pass through the radiator to dissipate a given amount of heat when the ambient temperature is 40C. than would be needed at 20C.

2) Compounding No.1), the rise in ambient air temperature causes air expansion which reduces air density. For a given volume of air, there is less air mass to remove heat on very hot days.

The **TEMPERATURE GAUGE** which is used in the car is not the type of equipment that was used by the Works to ascertain how the cooling system was coping under test while the engine laboured under different ambient temperatures and loadings. This instrument is intended to be for consumer use, designed to give the driver "a clue" as to what temperature the cooling system has. It is not a precision instrument; e.g. I have used two different gauges on the same car without any other change and had two different temperature levels indicated. The important thing is that the gauge should reach a level at which the needle stabilises, and continues to operate around that same level.

Neither is it an absolute indication of the whole state of affairs within the cooling system. The best indication of that, which we can obtain, is given with a capillary type temperature gauge fitted [illegible] of the radiator. I have known the standard temperature gauge to read just in the



"red" while the temperature in the top tank, measured with a thermometer, was 82C., which is not nearly boiling or anywhere near the danger level.

Temperature gauges can and do malfunction. If you have doubts about yours, replace it or return it to VDO for check and repair. Be sure that the gauge is properly earthed to enable proper function.

The location of the sender unit is by the thermostat housing on the inlet manifold. If the coolant is suddenly dumped because of a burst hose, the engine will overheat and seize before there is any indication of trouble on the temperature gauge. Before manufacture ceased, the Works had ascertained that the best place for the sender is at the rear end of the right hand cylinder head. In that position, sudden temperature increase will be relayed almost immediately should hose rupture occur, making it possible to turn off the engine before seizure. This would have been standard on P76 engines as well as on Terrier engines had production continued.

**COMBUSTION** is a necessary process in an internal combustion engine, and it is used to initiate mechanical activity. Combustion necessitates heat production. Heat is an energy source in its own right, and it is used in the following ratios in an engine:-

31%-out via the exhaust system.
33%-out via cooling system.
10%-overcoming mechanical friction.
25%-useful power.
1%-other.

The portion that will concern us is the 33% that must be dissipated by the cooling system.

**RESIDUAL HEAT.** Combustion is encouraged if there is already a residual heat present before ignition. The desirable level of residual heat is ascertained by the manufacturer. Sufficient heat is required to ensure the most complete burning of the petrol/air charge, yet it must not be so hot that it will ignite the charge before the ignition spark passes.

All parts of the cooling system serve to maintain the residual heat at an acceptable level. In particular, the **thermostat** ensures a specified minimum temperature and some control over the rate of temperature rise, while the **radiator/ fan/shroud assy.**, working together with the thermostat at lower temperatures, keeps the upper temperatures within safe and acceptable bounds.

It is inadvisable to use a thermostat that keeps the engine at a lower temperature than that specified by the manufacturer. It will reduce combustion efficiency with the following effects:

1) Less heat in the inlet manifold will reduce effective vapourising of the petrol, especially during the engine warm-up period. There will be an increase in fuel consumption because of increased fuel separation and unequal fuel distribution to the cylinders (a situation which adds extra heat), necessitating a richer fuel supply for smoother running.

2) Reduced combustion efficiency means that acids, which would normally be burned, contaminate the lubricant. This can lead to corrosion of engine parts, and premature wear on pistons and bores in particular.

3) Harmful exhaust emissions are increased.

4) For those interested in power output, there is a degree of power loss.

Those of us using L.P.G. do not concern ourselves with matters like fuel separation, but I have

found for myself that the P76 engine runs better using a 82C. thermostat with L.P.G. I know that L.P.G. prefers a cool intake for efficiency, but I have not found that the higher temperature has a noticeable adverse effect on the performance of my car.

**THE THERMOSTAT** accelerates the engine's warm-up, and controls the engine's temperature progressively until the coolant returning from the radiator is as hot as the thermostat's "fully-open" temperature. The thermostat is always identified by the intended opening temperature to ensure the engine's minimum operating temperature.

The cooling system operating without a thermostat will prevent the engine achieving normal operating temperature, even with a standard radiator. Installing a thermostat creates an entirely different situation. The engine's temperature can obviously rise very much higher, because the radiator is excluded from the coolant flow circuit. The thermostat's opening characteristics control the extent to which the temperature will rise before cooling is permitted.
This makes the thermostat a critical component in the control of engine temperature.

Before buying a thermostat, check that it closes/seats properly. You should not be able to see daylight past the seat except at the air escape hole. Many new items have this fault, causing an increase in the warm-up period.

**On very hot days**, the situation arises when the thermostat is unable to close because the coolant returning from the radiator is no longer cool enough to reduce the temperature in the engine block sufficiently. The thermostat progressively relinquishes control of the flow to the radiator until it is fully open. From that point onwards, the cooling is controlled by the radiator and airflow, the latter being effected by the fan(s) when the engine is at idle. When this situation exists, the temperature gauge will rise to indicate hot to very hot, but it does not mean that the coolant is about to boil, or the situation is out of control. It means that the cooling system is stabilising at a temperature higher than that indicated at 'N', and this is normal and correct in those circumstances.

But, there is no denying that the temperature gauge reading can make us very uncomfortable at those times. Consequently, many of us have fitted a larger radiator in the endeavour to have "better/lower" temperature control in very hot weather. Another option is to use electric fan(s) to increase airflow at idle speeds. Both these remedies are too expensive for many of us, so will not be undertaken.

Yet another measure commonly taken, to which I have already referred, is to fit a "cooler" thermostat, be it 77C. or 71C. While a cooler thermostat allows the coolant to flow to the radiator at a lower temperature preventing the initial heat build-up being so high, it also will reach the "full-open" stage at a lower temperature. The end effect of this is that on hot days higher temperatures can occur sooner because the thermostat relinquishes flow control to the radiator at a lower temperature. So a "cooler" thermostat does not really help on a hot day.

Further to this, as a cooler thermostat supplies cooler coolant to the radiator when it opens, the heat differential at the radiator is lower. This means that less heat can be removed in higher ambient temperatures unless more airflow can be induced, or a radiator with greater cooling capacity is fitted, or both!

Another (cheaper) idea, that will probably be spurned, is to fit a hotter thermostat: 88/89C. Following the logic of what has gone before, although the engine will run 6-7C hotter before the thermostat opens, a hotter thermostat presents hotter coolant to the radiator which in turn gives a greater heat differential, an advantage in higher ambient temperatures. Because of the greater heat differential at the radiator, and because the thermostat will reach its "full-open" stage at a higher temperature, a hotter thermostat will keep control longer in higher ambient temperatures.



I am experimenting with this, and although we have not had very hot weather since I installed it, I have noticed better temperature control up to the mid 30sC. It seems my engine enjoys the hotter thermostat, because the temperature gauge doesn't indicate as high as it does when fitted with a 82C. instrument at the same ambient temperature.

The hotter thermostat also helps the flow of lubricant in the engine because viscosity is slightly reduced. This means reduced friction between moving parts, and some slight benefits may be felt in engine response once the engine is at running temperature.

The only possible detriment that has been pointed out to me is that the coolant may need a higher concentration of inhibitor because it has been known that running at higher temperature can affect some metal parts of the cooling system adversely. My car usually gets that anyway; too little inhibitor is as corrosive as no inhibitor, and can do considerable damage over a period of time.

Checking the opening temperature of a thermostat before installation is a good idea providing you have an accurate thermometer and you can properly ascertain the point of opening. With that information, you will have some idea what to expect when it is installed. It is better to have the temperature gauge showing higher than 'N' than below it for reasons previously stated.

**THE WATER PUMP's** function is to force coolant around the engine block, and to **draw** coolant into the engine block from the radiator when the thermostat opens.

**Sluggish water pump operation is a certain cause of overheating. Hot days will very quickly cause overheating with this fault, because it means poor coolant circulation.**

If the problem is fan-belt tension or glazed pulleys, airflow will also be affected adversely at idle speeds. However, the impeller should be checked for pitting at the end of the vanes because this will cause cavitation and seriously impede the flow of coolant. In this situation, coolant flow is poor even though airflow created by the fan is adequate.

The importance of correct fan-belt tension is obvious. The condition of the fan-belt is also important, in that it should not be cracked, glazed, or have a deposit that will glaze. Ensure that the V is not so worn that the belt falls too deeply into the pulley.

Over a period of years, the pulleys themselves will become worn and polished. This will allow belt slippage, even with a new belt at correct tension. Excessive belt tension will only wreck bearings of the water pump or the alternator, or both. This may necessitate a treatment for the pulleys to provide adequate belt grip. A cheaper and more immediate remedy is to buy a tin of CRC BELT GRIP. BELT GRIP should be applied sparingly, and belt adjustment should follow when the engine is cold. The first application may cause a terrific noise at the fan belt, which is an indication of the extra tension that Belt Grip applies. Only use it when slippage begins to occur again.

For cars with L.P.G., the Gas Converter should be supplied coolant from the pressure side of the water-pump, not the return side. This means that the short hose between the inlet manifold and the water-pump return should be left as it is, and the supply taken from the heater supply point at the rear of the nearside cylinder bank. The return hose from the Gas Converter can then be led directly to the heater. The problem with this arrangement is that the heater must be open all the time,putting unnecessary heat into the car in summer. If the heat is too uncomfortable, this can be remedied with a heater by-pass hose, and taps will be needed in both the by-pass and heater hoses to obtain maximum heat for the heater in winter.
(I've been doing it wrong for years, but now it's right!)

CONT. NEXT MONTH

# C L U B  I N F O R M A T I O N  P A G E

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This Newsletter is the Official publiation of the Queensland P76 Owners Club Incorporated and is issued free of charge to financial members. Any opinions expressed may not necessarily be those of the Editor or the club, and any unintentional defamation or breach of copyright herein is unreservedly apologised for, and a suitable retraction will be inserted in the next edition, once the matter is drawn to our attention.

## GENERAL MEETINGS

The Qld P76 owners club Inc holds its monthly meetings on the second wednesday of each month.

TIME 7;30pm

VENUE
Norman Park Uniting Church.
Cnr of Bennetts rd and
McIlwraith Avenue
Norman Park
(At the Round about)

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1993 MEETING DATES

| | | |
|---|---|---|
| January | 13th 93 | |
| February | 10th 93 | |
| March | 10th 93 | |
| April | 14th 93 | |
| May | 12th 93 | |
| June | 9th 93 | |
| July | 14th 93 | A.G.M. |
| August | 11th 93 | |
| September | 8th 93 | |
| October | 13th 93 | |
| November | 10th 93 | |

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CLUB OUTINGS
Various activities are organised bythe clubs members and are generally held on the fourth Sunday of the month The activity and venue will be advertised inthe monthly newsletter.

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CLUB MEMBER OF THE YEAR

| points allocated | |
|---|---|
| Attend meeting | 1 point |
| raffle donation | 1 point |
| organise event | 4 points |
| attend event | 2 points |
| win event | 1 point |