

*Pine Rivers  
Historic Machinery Restoration  
Society Inc.*

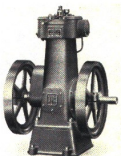
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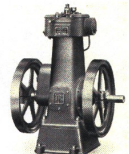
JULY 1999



# Newsletter



*No. 107  
December / January  
2018 / 2019*



### **Committee Members 2018/2019**

<b>President:</b>	Robert Burgess	07 3269 6081
<b>Vice President:</b>	Simon De Vere	0400 703 336
<b>Secretary:</b>	Robyn MacLeod	07 5428 3645
<b>Treasurer:</b>	Bruce Mullan	07 3820 7270
<b>Newsletter Editor:</b>	Robyn MacLeod	07 5428 3645
<b>Safety Officers</b>	Ted MacLeod	07 5428 3645
	John O'Donohue	07 5494 0117
	Robert Burgess	07 3269 6081
<b>Events Coordinator:</b>	Robyn MacLeod	07 5428 3645

### **Ipswich Members Events**

<b>Contact:</b>	Neil Brandt	0497 082 864
	Doug Kelly	07 5464 4650
<b>Safety Officers:</b>	Neil Brandt	0497 082 864
	Doug Kelly	07 5464 4650

Club meetings are held on the second Saturday afternoon of each month at a member's residence. The venue will be advised prior to each meeting.

All correspondence should be forwarded to:

The Secretary, P.R.H.M.R.S. Inc,  
27 Balkee Drive, Caboolture Qld 4510  
Email:- [robymacleod@bigpond.com](mailto:robymacleod@bigpond.com)



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acknowledged.

### **FROM THE EDITOR'S DESK**

Another year has almost ended. I just don't know where the time goes as it only seems like yesterday we were saying the same thing. It has been a busy year for the club with our last event being Convoy for Kids at the beginning of November.

It has been a very busy year for the club with members attending over 60 events. We have also welcomed a number of new members over the year.

I would like to thank all the members who have contributed to the Newsletter this year. It makes my job a lot easier when I get articles from the members and also makes for interesting reading. I look forward to you all keeping up the good work in 2019. I am sure there are a lot of stories out there. Maybe how you became involved with vintage machinery or interesting places you have visited.

Thank you to Simon for his article on Exploding Cup Engines in this issue. That is about all from me this year. From Ted and myself, we would like to wish you all a Merry Christmas and we hope 2019 is great year for you.

*Until next time*

*Robyn*

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### **FROM THE PRESIDENT'S WORKSHOP**

Hello everyone. I hope you are all well.

Thank you to Gary and Nina for hosting the October meeting.

I loaded my two Ronny's to take to Convoy for Kids but ended up with a sore throat and a bad headache so I rang Robyn to let her know I wouldn't be there.

As this is my last letter for this year I'll say cheerio until next year.

Robert.

P.S. Wishing you all Merry Christmas and a Happy New Year.

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October was a sad time for this club as we lost two of our founding members. Gloria passed away on the 24th and exactly one week later on the 31st Bob passed away.

Bob and Gloria, along with 4 other like minded people, were founding members of this club. The first get-together was held at their home in Wavell Heights in early 1999 and the club was officially formed in June of that year. They played a big part in organizing the first Rally which was held in October of that year.

It was Gloria who decided that the club need to raise funds if it was to continue so she had two eskys full of soft drinks to sell. From there the rally grew and the next year we set up a sausage sizzle and then went on to having a full Hamburger stall and providing a rally dinner for the exhibitors.

So as you can see this club owes a lot of it's success to Bob and Gloria. We will all miss them. May they Rest in Peace.

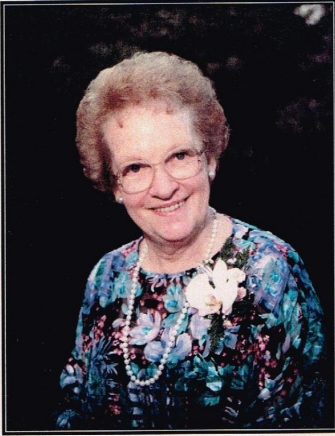
I was asked by the family to include the tributes, which you will find on the next page, from the funeral in this Newsletter.

Robyn



In Loving Memory of

*Gloria Merle Harmsworth*



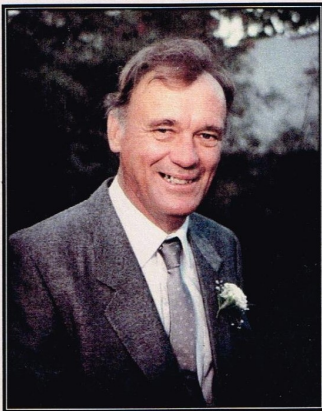
11<sup>th</sup> April 1931 – 24<sup>th</sup> October 2018

Legacy of Love

A wife, a mother, a grandma, sister and friend  
 This is the legacy we have from you.  
 You taught us to love and all things right,  
 You gave us strength, you gave us might.  
 A stronger person would be hard to find,  
 And in your heart, you were always kind.  
 You fought for us all, in one way or another,  
 Not just as a wife, or, just as a mother,  
 For all of us, you gave your best,  
 Now the time has come for you to rest.  
 So go in peace, you've earned your sleep,  
 Your love in our hearts, we'll eternally keep.

In Loving Memory of

*Robert Roy Harmsworth*



*Bob*

27<sup>th</sup> November 1936 – 31<sup>st</sup> October 2018

Remember Me

Don't remember me with sadness,  
 Don't remember me with tears;  
 Remember all the laughter  
 We've had throughout the years.  
 Now I am contented  
 That my life it was worthwhile,  
 Knowing that along the way  
 I made somebody smile.  
 When you are walking down the street  
 And you've got me on your mind,  
 I'm walking in your footsteps,  
 Only half a step behind.  
 So please don't be unhappy  
 Just because I'm out of sight,  
 Remember that I'm with you  
 Each morning, noon and night.

On Saturday November 3rd some members displayed as the annual Convoy for Kids which is held at the Redcliffe Show Ground. The display was not as big as usual because some members had the flu or were shifting house.

This year there were just over 500 trucks in the convoy which arrived at the Redcliffe Show Ground at 10am. There was a large crowd attending the event and plenty of interest shown in our display.

On the same weekend some of the Ipswich guys set up a display at the HCVAQ tractor and machinery display at the Gatton Truck Museum



Gary's Case

Tractor







## **EXPO 88 30 year Anniversary**

Does anyone remember EXPO 88? Maybe some of you attended the event.

The Caboolture Historical Village now has the “Australia” signs that were on the Australian Pavilion. These signs were restored and are now on display at the Village. They will remain at the village.





## .Christmas Party

The 32 members who attended the Christmas party enjoyed a great day.



## **History of the Explosion Cup Engine**

**By Simon de Vere**

I've been asked many times in the past how the injection system in a McDonald four stroke engine works. Admittedly there is an air of black magic that seems to surround these smoke bellowing beauties and a lot of people see them as cantankerous heavy lumps - likening them to the Sunshine two stroke engine!

The system is very easy once understood so I'll give some history and explain below how it actually works...

In the Netherlands around 1902, a man named Jan Brons invented a compression ignition engine that did not use any external form of high pressure for injecting fuel into the combustion chamber of a four cycle oil engine. His first European patent for this design appears to have been awarded in 1907.

On February 2nd 1912, Rasmus Martin Hvid (pronounced 'Veed') files a patent application detailing an Oil Injector Device for oil engines in the USA. Hvid also patented a 'Hydrocarbon Engine Governor'. At this time, I'm not sure if Hvid used Brons patent under license or his design differed enough from the Brons design to allow him to obtain a stand alone patent. This is unclear.

Although the self-igniting concept was not new having been introduced by Rudolf Diesel in the mid 1890's, the Brons / Hvid patent has left an indelible mark. These patents serve as the basis for a unique engine that reportedly can run on any oil that will burn.

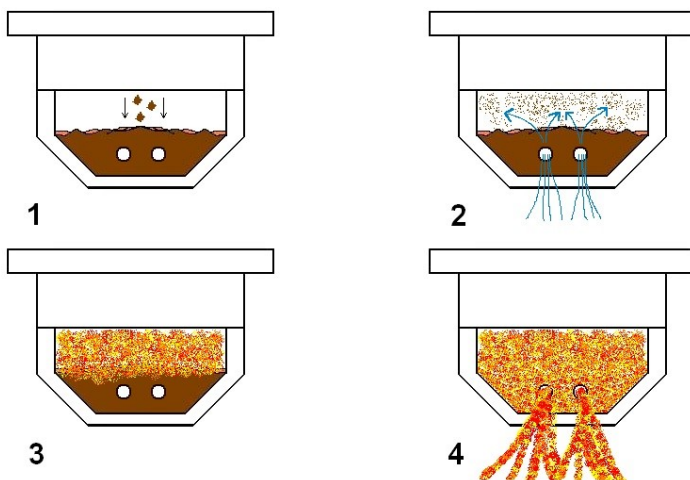
The first Hvid patent engines were manufactured by the Hercules Engine Company of Evansville, Indiana, USA in 1915 and sold under the Sears-Roebuck brand, 'Thermoil'. Very soon after in the same year, St. Mary's Oil Engine Company. Did the same.

In 1918 back in Australia, McDonald decided to get into the diesel market as did other smaller local manufacturers of the day and therefore went about and bought a license from St. Mary's Oil Engine Co.

The name 'Explosion Cup' engine, describes how the engine uses the fuel because the fuel first detonates in a small cup on the end of the injector. Because of the way the fuel is introduced and how the combustion takes place, this type of engine is limited to low-speeds, the maximum being about 500 RPM. Obviously also due to lack of very high tolerances in this type of design. The efficiency of the fuel burnt is quite low compared to the later high pressure injector systems

but it worked well and did the job where no precision tooling (injector shop) was needed. This served very well for people on the land and could be serviced with the engine on site with a hand full of parts.

The Explosion Cup Engine (Brons/Hvid) has in the injector (vero pressure) one valve and a needle; the latter, moved by the governor, controls the quantity of combustible. The lower end of the injector is provided with a cup with holes which face the piston in an open chamber in the head. During the first stroke the injector valve is open and the necessary quantity of fuel flows into the cup by gravity and suction. During the second stroke the valve is closed, the compression raises the temperature of the air and causes self-ignition of the partly vaporized fuel in the cup. By the force of the explosion the main part of the remaining liquid combustible is sprayed out through the small holes into the cylinder, where immediately the main combustion takes place.



This graphic makes explanation easy. In step **one** the fuel has been delivered to the cup during the intake stroke.

In step **two** as the piston comes up on compression, heated air begins to force its way through the tiny holes in the fuel cup. Some of the lighter fractions of the fuel are vaporized.

Step **three** occurs as the piston nears maximum compression. The air now being forced into the cup is hot enough to ignite the vapor above the liquid fuel. That red yellow cloud above the fuel is where the small explosion takes place.



Now at step **four**, the explosion creates enough pressure in the fuel cup to force the remaining liquid fuel through the tiny holes at very high pressure. This creates a mechanical force sufficient to vaporize the fuel as it passes through the pinholes. Once out of the fuel cup it comes in contact with the superheated air within the cylinder and immediately explodes. Now that the fuel is on fire in the cylinder, the expanding gases from the burning fuel force the piston downwards thus beginning the power stroke.

In order for these engines to run successfully with different fuels, the compression ratio is adjustable via shims at the big end of the connecting rod. Different types of fuel including crude oil, diesel fuel, kerosene and other heavier fractions can be successfully used.

These engines are built with heavy crankshafts and rods in order to stand up to the high compression loading which occurs when the fuel detonates.

### **Wasn't that easy?**

Hopefully this explanation will blow away any black magic surrounding the Exploding Cup Engine.

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### **Just for a Laugh !!!!**

A miser made his wife promise to put all his money in his casket when he died, which she did. When he died the wife dutifully placed a box in the coffin.

Her friend said "Girl did you bury him with his money?"

The wife replied, "I am a Christian, I can't go back on my word. I promised him that I would put that money in his casket".

"You put the money in the casket with him?" the friend asked!!

"I sure did" said the wife, "I got it all together and put it in my account. I then wrote him a cheque. If he can cash it he can have the money".

-----ooo-----

# **WARNING!!**

## **CONTAGIOUS**

### **VINTAGE MACHINERY DISEASE**

**ADULT MALES EXTRA SUSCEPTIBLE**

## **SYMPTOMS**

Continual complaint as to need a constructive hobby.

Patient has blank expression, sometimes deaf to wife and friends.

Always haunts old farm sheds, auctions and garages.

Won't work around the house.

Has nose in vintage truck and machinery and magazines.

Often found wandering around tractor and stationary engine displays  
with camera.

Mumbles such things as YB, YD, YF & YG.

## **No known Cure**

## **Disease Not Fatal**

## **Victim should operate vintage machinery as often as possible.**

**2019 Event Dates**

**All the events listed below are club ratified events.**

**If you are attending another event you must notify the secretary in writing before attending.**

**All agricultural show dates are correct at the time of printing, however are subject to change by local show societies.**

**January**

26th - Samford Museum

26th & 27th - Allora Rally

**March**

3rd - Milbong Heritage Day, Milbong Reserve

22nd, 23rd & 24th - National Rally, Murray Bridge SA

<https://www.nhmanationalrally2019.com/>

**April**

7th - Kilcoy Show

20th, 21st & 22nd - Highfields Easter weekend

**May**

10 & 11th - Marburg Show

17th, 18th & 19th - Ipswich Show

25th & 26th - Dalby Pioneer Park

26th - Dayboro Day

**June**

1st - Boonah Show

1st & 2nd - Petrie Steam Fest

7th & 8th - Toogoolawah Show

21st & 22nd - Kalbah Show

28th & 29th - Rosewood Show

**July**

6th & 7th - Dayboro Show

27th & 28th - South Coast Rally

**August**

2nd, 3rd & 4th - Pine Rivers Show, Lawnton

24th & 25th - AMRSQ Rally, Woodford Show Ground

**September**

7th & 8th - Pine Rivers Rally, Pine Rivers Park, Strathpine

14th & 15th - Kingaroy Rally



## **CLUB NEWS**

There are two correction to be made to the phone book you received with the last Newsletter.

Brian McGregor Email ;- bigmacbuzzer24@gmail.com

Peter Dreghorn Mobile phone:- 0410643552

### **From Eric Forshaw**

After 25 very happy years at 35 Blackwood Drive, Ferny Hills we have moved to a retirement estate not far from where we lived.

The name of the Estate is "Farrington Grove"

Our new address is:-

Unit 214/55 Linkwood Drive

Ferny Hills Qld 4055

We no longer have a land line however our mobile number and email addresses remain the same.

### **SWAP MEETS**

**The dates and venues listed are correct at the time  
of printing.  
Do not travel without checking.**

### **February**

2nd & 3rd - Toowoomba Swap, Toowoomba Show Ground

### **July**

27th - Nambour Swap - Nambour Show Ground.

### **September**

14th - Gympie Swap

### **October**

TBC - Kalbar Swap, Kalbar show Ground

### **November**

TBC - Kingaroy Swap

### **FOR SALE / WANTED**

If you have an ad for this section please  
notify the Secretary in writing



*A Recipe for Christmas All Year Long*

*Take a heap of child-like wonder  
That opens up you eyes.*

*To unexpected gifts of life -  
Each day a sweet surprise.*

*Mix in fond appreciation  
For people whom we know;  
Like festive candles  
Each one has a glow.*

*Add some giggles and some laughter,  
A dash of Christmas food.  
(Amazing how a piece of pie  
Improves the attitude).*

*Stir it all with human kindness;  
Wrap it up in love and peace,  
Decorate with optimism, and  
Our joy will never cease.*

*If we use this healthy recipe,  
We know we will remember  
To be in the Christmas spirit  
Even when it's not December.*

