

**Presidente**

Robert Madigan  
Ph: 0402 628 652  
E: robert.m.madigan@gmail.com

**Segretario**

David Button  
E: david\_button@hotmail.com

**Tesoriere**

Allan Van Dulleman  
E: avandull@hotmail.com

**Club Capitano**

Nessuno

**Direttore/Editore**

Philip Blake  
Ph: 62652598  
0409803316  
E: pblake@ozemail.com.au

**Membership**

Robert Madigan  
Ph: 0402 628 652  
E: robert.m.madigan@gmail.com

**Membri del Comitato**

Graham Mitchell  
Peter Lowe  
Gary Lucas  
Stewart Peacock  
Tristan Roberts

**Segretario sociale**

Graham Mitchell  
0418 173 102  
grahammitchell666@gmail.com

**Enquiries**

For information on the club and general enquiries call any of the above members, or visit our Web Site: [www.cmitas.org](http://www.cmitas.org)  
Or Facebook page [www.facebook.com/clubmotoriitalia](http://www.facebook.com/clubmotoriitalia)

Address general correspondence and enquiries to:

The Segretario  
Club Motori Italia Inc  
PO Box 514  
North Hobart 7002  
or email  
[clubmotoriitalia@gmail.com](mailto:clubmotoriitalia@gmail.com)

**Advertising rates**

1/4 page \$7.50 per issue  
1/3 page \$10.00 per issue  
1/2 page \$15.00 per issue  
Full page \$25.00 per issue

**Full yearly Membership fees:**

1 January to 31 December  
Social \$45  
Motorsport/Competition \$65  
Family \$90  
(2 adults + kids under 18 - Family rate allows up to two competition members.)  
Note: Applicants who wish to join part-way through the year will be charged a pro-rata membership fee based on the number of months left in the membership year. See the application form for details.

**Meetings**

Southern members meet on the final Tuesday of each month, January through to November, at the Civic Club, 134 Davey Street, Hobart.  
The committee meeting is held between 6.30-8.00 pm. Drop in any night.

CMI's AGM is generally held at 7 pm on the last Tuesday of November at the Civic Club, Hobart.

All contributions to Veloce Nota are welcome and when published earn points towards the Clubman of the Year Award.

Please send all letters and contributions to The Editor: [cmi.editorial@gmail.com](mailto:cmi.editorial@gmail.com)

**Disclaimer**

While every effort is made to ensure the accuracy of the information, advice and responses in this newsletter, neither Club Motori Italia Inc nor its officers or members accept liability for any loss or damage arising.

**CMI Life members:**

Norman Henry  
Graham Mitchell  
David Mitchell  
Steve Caplice  
Rob Madigan  
Tristan Roberts  
Dave Button  
Peter Lowe  
Philip Blake



Facebook

[www.facebook.com/clubmotoriitalia](http://www.facebook.com/clubmotoriitalia)

# THE BIG AND THE SMALL OF FIAT



The Fiat Professional range has the van you need to get the job done. Whether it be the powerful and hard working Fiat Ducato or the dependable and nimble Doblo, Fiat Commercial vehicles make an impression



**GET THE ITALIAN WEIGHT LIFTING TEAM ON YOUR SIDE**

## VINAKA ALFA FIAT



**Sales Service and Spare Parts**

Your Tasmanian Authorised Dealer for All of your Alfa Romeo, Fiat and Fiat commercial Vehicle needs

Vinaka Alfa Fiat

1 Amy Street Moonah 7009

Ph: 03 6273 0628 Email: [vinaka@netspace.net.au](mailto:vinaka@netspace.net.au)





Adam Kaplan and Aleshia Penney had some trouble with their Giocattolo in Targa High Country, but showed it's a force ...

Back to a longer edition of VN, and this time it's a bit of a celebration of Targa High Country, where the Alfa-based Giocattolo was expected to do well and did do well until it ran into trouble. We'll see it in Tassie in April.

Bill Freame seems to be everywhere, and is far and away our most frequent contributor. This issue he deals with the first in a short series about pistons (which he makes), as well as giving us a day-by-day account of his time as service crew for the Bits of Italy Fiat 131.

Darryl Bennett and Mary White did very well on debut in the Suzuki Swift Turbo, as you'll see. Mary has bought one for herself as well ...

Robert Madigan explores philosophical questions about working on cars—which I will probably follow up in a later edition with some similar dark tales of my own.

Now—who wants a free windscreen? I have acquired about 30 (mostly new) screens, and will give any of them free to a financial club member who needs them. To anyone else they are \$50, which is still way too cheap.

I took them off the hands of a mate who had to shift them quickly.

Many were still in plastic but the Karcher has undressed some of them.

**Call me on  
0409803316**

**Windscreens in stock:**

- Late Bellette x2
- Renault 8/10
- Renault unknown
- Falcon XA/XB
- Valiant
- Alfa coupe
- Alfa unknown
- Corolla 1000?
- Renault 16 X 2
- Peugeot 403
- Mazda 1200/1300
- Datsun 1600
- Unknown x 5
- HQ Holden
- Mitsubishi Colt
- 310/312 Datsun Bluebird x 4 (one is 312/314)
- Toyota Crown RS 50

**Presidential Patter**

It's hard to believe it is March already but at the same time the New Year seems a distant memory. I've had a mixed year on car related matters so far. Two DNFs in khanacross events due to mechanical niggles was disappointing, while stripping three old Alfas for parts (Sud ti, Sprint, 33 wagon) has been therapeutic. Taking a crankshaft to

Launceston to learn it was too far gone to machine was disappointing but waking the Alfa 75 up from its long slumber in preparation for the upcoming CMI hillclimb/supersprint was very rewarding. On the social-side, car related social activities have been great. I've spent lots of quality time with my eldest son John competing, repairing, and stripping cars, and the club's

social drive to Great Lake was excellent. Thanks to Graham Mitchell for organising the event and to the club members who came along. It was great to see a northern contingent attend and the committee is keen to run more events that will help revive this part of the club.

Ciao  
Roberto

First and foremost, pistons are only there to carry the sealing ring set and achieve the compression ratio required! Pistons are involved as the moving part of the combustion chamber in an internal combustion engine and are subject to inertia loadings, combustion loadings, detonation stresses and incredible heat loads. While the cylinder head and cylinder walls are cooled by water – or fins when the engine is air-cooled – the piston sheds most of the heat it is being subjected to through the piston rings and a small amount into the piston pin and connecting rod. Very little of the piston skirt is ever in contact with the cylinder, so the operating temperature of the piston is always going to be much higher than the other bits that are mentioned above.

At the dawn of motoring, cast iron pistons were suitable because of vast knowledge of the material and the very low revs the engines could sustain. By about the beginning of WW1 and the ongoing development of aviation engines, aluminium pistons had started to be used as revs were raised, overall weight needed to be reduced and power was increased. Unfortunately, international conflict has always spurred on industrial development at a far faster pace than peace time ever did. Improvements in fuels and the reliability of ignition systems allowed the raising of compression ratios and further engine development, while improving gas flow provided power and reliability from reduced engine sizes. When supercharging was added to race engines, the stresses on the pistons dramatically increased, especially on the crown and piston pin bosses.

Recent developments have seen some (very light) exotic materi-

als banned because of health issues during machining and safe disposal at end of life. Some high-boost, lean-burn diesels have been using a combination of steel for the piston crown and aluminium only for the skirt in the (extreme) construction of their pistons. With the rapid development of 3D printing and additive manufacturing capabilities, Mahle, Porsche and others have been experimenting with building piston blanks in this way, requiring minimal machining and allowing the creation of internal cavities that are difficult when using molten aluminium to cast piston blanks. Additionally, with the development of CNC machining centres there is the ability to create small quantities of pre-production piston samples for developmental purposes, machined from solid billet in one of the high-strength aluminium alloys and with suitable skirt coatings to prevent scuffing.

As the years have passed, the pistons have gone from flat-top 'Jam Tin', with the pin at about the middle of the skirt length, to now being squat, with a lumpy top and the pin very close to the oil groove. To further reduce the vertical height of the engine, the skirt will be scalloped to allow the piston to clear the crank counterweights at the bottom of the stroke (BDC); thus the piston no longer looks like a jam tin. To eliminate piston slap, a noise created as the piston rocks over as it changes direction at the top of the stroke, the pin hole in cast pistons will be off centre, anywhere between 1 mm and 2.5 mm offset, with the pin offset to the thrust side of the piston. Previously the earliest pistons had an expansion slot machined on the non-thrust side so they could be installed very tightly in the bore, without pos-

sibly seizing. Usually, forged race pistons will keep the pin offset at zero, as that gives slightly more power at the cost of some noise.

Early Holdens, from model 48-215 and FJ all the way to the EJ had the Grey engine had a typical jam tin piston with a fully floating pin, retained by flat circlips. When the 149/179 Red engine appeared in the EH Holden, the compression height had been reduced, the piston was more slipper-shaped and the pin was a press fit in the con-rod. Despite the differences in design, both engines continued to be raced for many more years, the red engine in XU-1 Toranas and HQ Holden race cars being eventually stretched out to 202 cubic inches by the manufacturer. When the 253/308 V-8 engines arrived, they continued the semi-slipper skirt shape and pressed-in rod pin. By the time the L-34 Torana was released, it had a piston that had been dumbed down and 'productionised' from the Formula 5000 race engine, but still retained the pressed-in pin.

The most recent development for high volume production engines has seen some squat pistons with oval lands (the lands being a slightly larger diameter at 90 degrees to the pin than directly above it). This is to reduce the volume available to be occupied by unburnt gases and further improve the exhaust emissions. Previously, for pistons with longer skirts, the lands are round, should never touch the bore and can contribute to some of the emissions exhausted, taking into account the volume between the bore and lands, but only above the top ring.

### Aluminium Piston Materials

Aluminium alloys suitable for pistons are a combination of various trace elements and up to about 15% silicon to improve the hardness and reduce their expansion when they are heated. The highest quality forged pistons (2618) use an aluminium mix with very little silicon content, thus have a slightly higher expansion rate than forged pistons (4032) with 8–12% silicon. The (disc) blank is sawn to a set weight and preheated to around 500-550 degrees centigrade to make the material like a plastic, just before being placed in the heated forging die, with a very special lubricant on all surfaces to aid the flow of the aluminium over the die shape. There are also pistons advertised as being ‘Power Forged’, that are actually only pressure die-castings with up to 15% silicon, and cast from molten metal!

Cast pistons are usually made from A504 aluminium whether they be gravity castings, low pressure die-castings or sand castings. It should be obvious that the labour involved in producing sand cast pistons is for a very low volume requirement such as of an old engine restoration where similar replacements are no longer available. Gravity die castings are for the higher volume market, where thousands (or more) of identical pistons are to be provided to the car manufacturers who are producing hundreds of vehicles each day, all to the same specifications plus valve pockets and bowls can be cast in the crown, requiring minimal or no machining. There are also gravity cast pistons available that are manufactured as replacements for existing engines, often made by piston companies that don’t

have many O.E. supply contracts to any car manufacturers. As with all things automotive, let the buyer beware when buying cast pistons for rebuilding a race engine. Price is not always an indication of piston quality!

Casting with molten aluminium at 700 degrees centigrade the aluminium oxidises on the exposed surfaces very rapidly, thus wherever a pouring ladle of metal is going to scoop up the required volume to fill the die cavity and risers, the oxides on the surface need to be removed immediately before the ladle is filled up. The easiest and preferred way for an operator to do this is to draw the bottom of the ladle backwards across the surface, then scoop up clean metal from this oxide free area. When Repco were setting up with a robot-controlled ladle, to replace some of the (OH&S) human operator issues, the company contracted for the installation had considerable difficulty understanding the need to write the program to do that rearwards movement first. Eventually they compromised by just adding a skimmer thing in front of the ladle thus minimising the surface oxides that were scooped up, as I remember.

As you can now probably understand, the molten aluminium is at its maximum expansion when it is poured into the die or sand cavity. It begins to shrink immediately as the temperature drops from around 700 degrees in the molten state, back to ambient of between 6 degrees in winter and 40+ in summer. The rule of thumb for the amount of aluminium shrinkage in die and pattern making is to allow about 5mm in every 300mm of whatever object you are casting. The more consistent the pouring temperature

of the metal and the operating temperature of the die cavity (if it can be controlled), the smaller will be the weight variation across the batch of finished pistons. With the die casting of pistons, the core must be withdrawn as soon as the top of the riser solidifies. This is because the casting is shrinking onto the core as the metal cools, and, as we know, it should be the riser that is always the last to solidify. When it has eventually ‘set’ it’s then safe to begin to remove the casting. The core must be removed first while the casting is still held in place in the outer of the die by the pin hole core pins which are still engaged in the casting. The hot casting must be handled very carefully as it can easily be distorted if dropped, or squeezed by tongs.

To prevent the ‘clean’ aluminium from welding itself to any of the die surfaces, the core and the cavity are all coated with a release agent that also aids the heat transfer and speeds up the fast solidification of the metal. However, as the aluminium casting should solidify from the bottom upwards, it will continually shrink in volume and must be replenished by the molten metal held in reserve in the risers, which must always be the last to solidify. To slow down the solidification of the metal in the risers, so they keep feeding the casting, the die coating on the risers (and the ladle) is more of an insulator to ensure it can keep supplying molten material to ensure the casting will be full of solid metal when solidified. If the risers solidify earlier than the piston casting (at the crown?) there will be shrinkage and possibly some porosity cavities in the affected area. Thus, the risers must always, always,

## Piston mysteries explained (cont)

always be the very last to solidify!

To aid the rapid solidification of the casting, the core and/or outer die will be water-cooled to try to keep the die temperature below 200 centigrade. Too cool and the castings may have 'cold shuts' where the metal has too rapidly cooled and oxidised at the leading edges (which it always does) and fails to join up seamlessly (by remelting and absorbing the oxides) on the far side of the die. There will always be a temperature difference across the core; it will be hotter where the 700-degree molten metal is regularly being poured into the cavity, than on the far side of the cavity where the rapidly cooling metal is now required to re-join from two directions and also dissolve any oxide that has formed on the

most forward surfaces. The quicker the metal can solidify, the smaller the grain structure will be, improving the strength of the finished casting. As sand castings solidify very much slower, the grain structure will always be large. Whatever is being die- or sandcast, the air in the cavity that will be replaced with molten metal must be able to escape, or vent, so that the cavity will fill completely, with absolutely no pockets of air able to be trapped anywhere in the detail we will require to be an important feature in the casting we are creating.

When I started at Repco, Holden 186 and 202 piston castings in particular were being poured two at a time, on a big casting machine that could handle two

dies, side by side. Upon extraction, the two new castings were put aside, the die cavities closed and two more castings were poured. While the just poured metal was solidifying, the previously removed castings had the risers cropped off and then were dipped in a 200-litre water tank, in water that was at boiling point (eventually). This helped refine the casting grain structure and toughened the surfaces to reduce the possibility of damage. The risers were still very hot, but much more importantly, they were still dry and so could be added back into the far corner of the melt without fear of a steam explosion, as will happen when any water is added to any molten metal!



Fiat 1600 ohv pistons made by Bill Freame

Targa  
High  
Country  
Special



Lancia Stratos, Targa High  
Country 2022

# Third-placed debut finish

**MOTORSPORT**  
BY JOSH PARTIDGE

HAVING both recently turned 60, a Targa debut for Mary White and Darryl Bennett was a fitting way to celebrate.

The celebrations then became even better when the pair finished third in the handicapped Classics and first in their engine-capacity class at the three-day Targa High Country in Victoria.

"Competing in the event was just amazing and we knew pretty well from day one that we were in third position and it was a matter of keeping the car on the ground shiny side up, rubber on the ground and competing it, which we did and finished in third," White said. Bennett added: "Even at the end when we got back to the room we were both just saying did this really happen?"

White it was the duo's Targa debut driving their 1989 Suzuki Swift GTL, finishing 22 minutes and 19 seconds behind the winners 1989 BMW 325. Bennett brought plenty of racing experience



**ALL SMILES:** Mary White and Darryl Bennett celebrate their third place. Peter: Supplied

to the table.

In the 80s he was signed to the Toyota Australian Race Team, battling against the likes of Peter Brock and Dick Johnson and setting a 10-year-old lap record at Phillip Island.

He finished fourth in an Australian Production Car championship season and dabbled in other various forms before moving to Tasmania from Victoria and

winning the hillclimb championship three times. His experience was backed by his partner White, who hadn't seen a set of navigation notes before they decided to give the race a go.



The pair's helmets rest upon their Suzuki Swift.

"I was really lucky that we have a friend - Phillip Blake," White said.

"Phillip's done 25-odd Targas and Darryl knew him, so he gave me a bit of a brief on how to read the rally notes.

"Then we had a couple of practices and I picked it up pretty easily and lucky I don't careck with speed or going downhill, uphill or going around corners."

The duo, who connected online "a little while ago", have already been accepted for Targa Tasmania in April and are ready to battle the winding roads of Tasmania, which Bennett thinks won't be too different to the High

Country course.

"It was really hot up at Bailee on Friday and Saturday, windy on the Sunday, so hopefully it will be a bit cooler in April for Targa Tas," he said.

"Having worked up there for nearly 20 years building chalets and whatnot, I know the lay of the land really well so that was another advantage for us."

White and Bennett are also looking for sponsors for their Tasmanian tilt, with Mary's Skin Care and Benesig Constructions as well as No Ping Developments funding their debut.

Top: Fiat 131 (Buggee/Freame) Bottom: Lancia Stratos on the final bend of the event, top of Mt Buller



The highly anticipated Targa High Country was run this year, but after the tragedy of Targa Tasmania last year, maximum speed of any competing vehicle has been reduced to 200 km/h, with big time penalties and worse for anyone exceeding this limit. This new rule has not been supported by all the competitors that it affects, obviously those with cars that can achieve much more than just 200km/h! Regardless, this new speed limit just might save Tarmac Rallying for a few more years on the great driving roads that they use. The regularity and speed limited categories have remained at 130km/h, a difficult enough speed to achieve on some roads, without having massive power and torque.

The event would be run from 11 to 13 February, with three entries from FCCV. Sonja and Ernst Luthi were in their Renault Alpine, in Classic Handicap, now up against the FIAT 131 of Phil Buggee and Paul Freame. Entered in Thoroughbred Trophy was the Mitsubishi Sigma, crewed by Jack Waldron and Vin Gregory. Servicing for these vehicles were Ian Maud and Steve Schmidt for the Sigma, while Deb Buggee, Shayne Williams and Bill Freame would be servicing for the 131 and both service crews would be available to refuel all three cars. As previously, we would also be available for the long-time friends of most of us; the Subaru of Ian Samson and Alexia Frost, with their car being serviced by Jeffrey Wilson. Additionally, most of this crew were also sharing the accommodation in one of the Chalets up on Mt Buller.

Scrutiny of the vehicles and credentials checking was done in a

middle of the road car park, in the middle of Mansfield, in what at times became organised chaos, due to slightly too few officials doing too many jobs. With our cars and crews proving to be correctly entered, identified and accepted into the event, we had a leisurely cruise up the hill to Mt Buller where we unloaded personal effects for our stay in the chalet and had a late lunch, before a final check over of each of the cars to make sure they were as fully prepared as we could make them. Additionally, the service vehicles were emptied of unnecessary items, fuel churns for day one added to the load and mobile phone numbers were exchanged and provided to everyone involved, just for emergency contacts if something unexpected should happen. A 131 spare wheel and an Alpine spare wheel were added to the Ford Territory that was servicing for them. Phil had also been approached by a (desperate) BMW competitor enquiring if their 20-litre fuel churn could possibly be added to the Territory, but Phil declined as there was already 70 litres aboard, in three churns, for the Alpine and the 131, just for Day 1.

Day one was a late morning start with a sprint off the mountain to Sawmill Settlement, then a transport through Mansfield and a few competitive stages to a late lunch in Whitfield. We added fuel in Whitfield, as required, but were concerned that the Renault Alpine hadn't arrived, despite them having clear instructions as to where we would be waiting for them

and knowing that we were in a good mobile phone reception area. Advised that they weren't coming we packed up and headed cross-country back to Mansfield to add more fuel in a safe location close to the BP servo, before the final stage for the day, in late afternoon, from Sawmill Settlement back up to the Mt Buller village. When the road was eventually reopened, the service crews returned to the village and servicing could be completed. The Alpine had withdrawn from the event, but it still received our attention in solving the starter motor problem it had suffered.

Day two had another sprint off the mount, the second of the three planned. From there the cars transported to Merton and then two more stages before a lunch display in the heart of Euroa. We serviced/fuelled on the approach to Violet Town and warned earlier cars of a couple of big mobs of Kangaroos that had been crossing the road nearby. Fortunately, by the time our crews arrived to be fuelled they had been gone for a long time. We caught up with our crews again, in Euroa, before departing for our next refuel, at the side of road layby in Bonnie Doon instead of where we usually refuel at Merton. The Sigma also stopped there, not for fuel but to attend to making a quick fix to ensure the navigator's calls could be heard by the driver. That was a successful fix! From here, there was to be a street stage through Mansfield and then the cars are displayed at the 'Targafest'. We took the opportunity to swap wheels around during a quick service in Mansfield on the 131 as Phil was complaining of a vibration at the front of the car.

We correctly assumed that one of the front wheels had lost a balance weight, so both were replaced with the two spares we had. The drive back to Mt Buller after Targafest would prove if we had solved the problem, or if further investigation would be needed. That drive confirmed that it must have just been a wheel balance problem, that appeared now solved. Also as we now weren't carrying Alpine fuel, we were able to accept that spare 20 litres for the BMW, but as it turned out, this extra fuel was never needed.

Sunday would be the longest of the event and Shayne and Steve would both be returning to their homes from Mansfield, after the return stages. On this day, the stages are towards Jamieson, then to Eildon, for lunch, and then return in the opposite direction, with the finish in Mt Buller village. One of the stages is 48 kms long! We would add fuel near Snobs Creek, on a clear area well off the road. To my absolute surprise, Alana, Ruth, Erin and Mark arrived, up from Melbourne for the day, and they were early enough to see most of the early cars, as well as watch us spring into action to add fuel to the 131. Alana took a photo of us in action, a permanent record of a well-executed fuel stop. Phil had requested that we be prepared to swap the wheels around, front to rear, during the lunch break at Eildon, a process that is permitted in the rules. So, Deb, Shayne and Bill had the trolley jack and a battery rattle gun with them when the 131 arrived, parked about 200 metres from where the Territory could be parked. Upon inspection, the tyres were still in ex-

cellent condition so remained where they were on the car. Deb, Shayne and Bill then proceeded to a pre-arranged location, near to Alexandra, to splash a little bit more fuel in the 131. Jeffrey was also there with us but not expecting to be needed by the Subaru. A phone call advised us that the stages near to Eildon had been cancelled because of a serious accident, so we proceeded to the next pre-arranged refuel next to the Mansfield Airport. On our way back through Mansfield, both Steve and Shayne collected their vehicles, ready to make their trips home from there. We added just enough fuel to the 131 to get it to the finish of the event's final stage, in Mt Buller village.

Eventually the last car had run up the hill, the road was reopened and we proceeded to the top, arriving while the presentations to the winners were taking place. But we couldn't get into the court where our chalet was, because there was a Porsche parked diagonally across the entrance. Thus, we had to retrace our travel to park correctly in a parking bay, which the Porsche should have done. Ian and I both left little notes on the car, complimenting them on successfully blocking our access.

So, the results for our members? The Renault Alpine, a

DNF. The Sigma, 3<sup>rd</sup> in Thoroughbred Trophy, and the 131, 2<sup>nd</sup> in Classic Handicap. That's a pretty good result for the effort involved. Of additional interest for me (and many others, too) was the first appearance of a (Hawke) Lancia Stratos. It had overheating problems on Friday and fuel supply issues on the final stage on Sunday, but it was still going at the end of the event and these problems will be solved by this experienced crew, in time for the 30th Targa Tasmania, now just a few months away.

The eleventh Targa High Country was another great event, once again using and enjoying some of the excellent driving roads, relatively close to Melbourne, that the area is well famous for. Including also the multiple tour groups, there were about 250 vehicles entered. The weather was warm and the roads were dry, so it was an enjoyable event for most of those that had entered. FCCV had 11 members involved, comprising six members competing and five servicing for them.

*Editor's note: the 131 of Phil Buggee and Paul Freame was the car in 2nd ahead of Darryl and place Suzuki in the Classic Handicap.*

*Below: the Stanton/Blake 924 Turbo leaving the start*



## Car maintenance and Murphy's Law

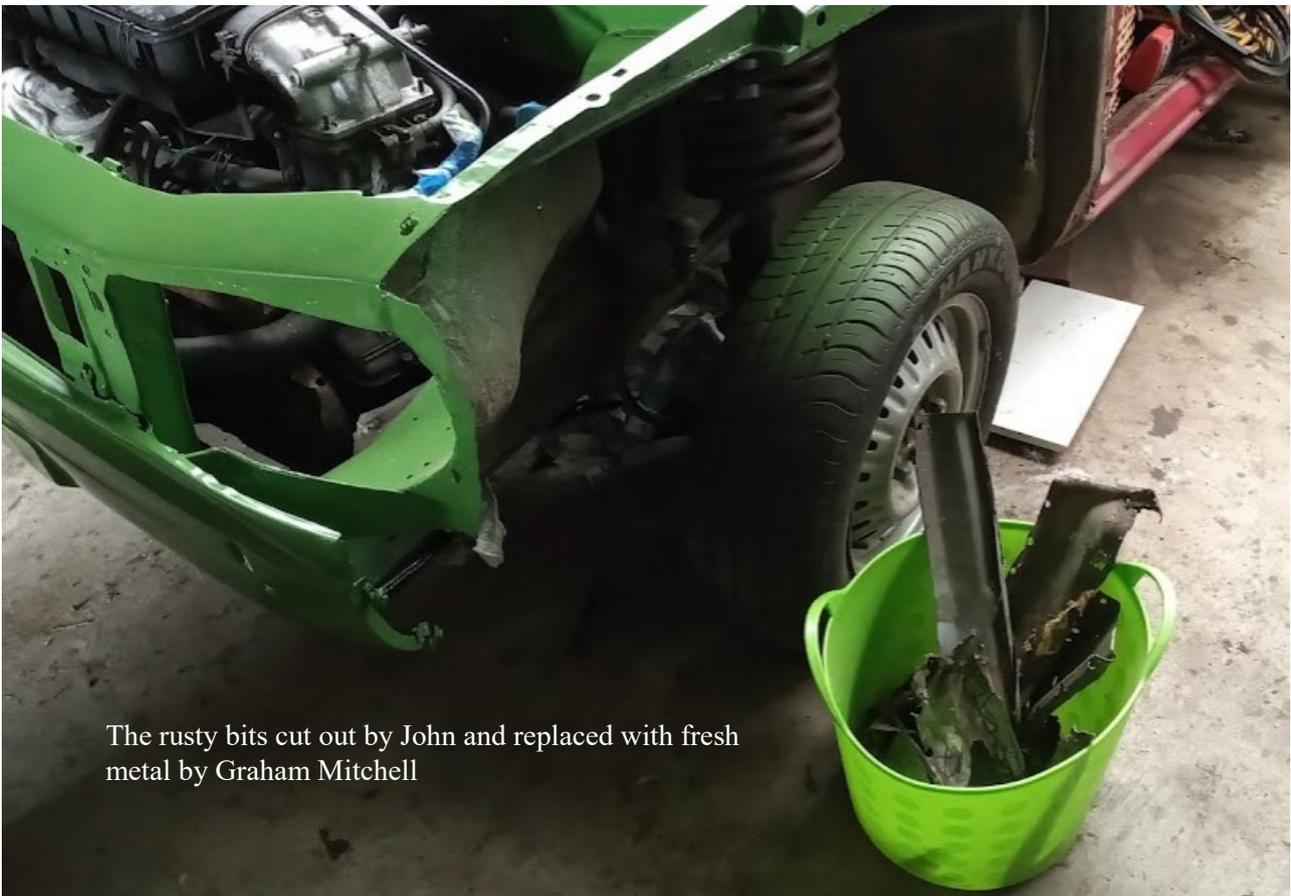
.If you are one of those people who work on your car it will come as old news that the laws of physics do not apply to car maintenance and that Murphy's Law takes their place. You expect big parts to fall through small holes; dropped parts to fall upwards or sideways as necessary to jam themselves in inaccessible places; tools and parts to vanish into thin air, etc; but once in a while something happens which still manages to surprise you.

John and I are restoring a series one Alfasud TI which I bought years ago as a rolling chassis. The car has been sitting in my garage for over ten years, only being moved back and forth on a handful of occasions. In recent months we have been rolling it around a fair bit and while the

rear wheels weren't moving all that freely they were turning and we were still able to move the car around. We decided to put an engine into it in January and rolled the car into the middle of the garage (where it had been many times) and jacked it up to slide the engine and transaxle in. After putting in the drivetrain with relative ease we lowered the car down onto its wheels and readied to push it to the back of the garage and finish up for the day pleased with our progress. We gave it a push and nothing happened. We gave it a harder push and there was still absolutely no movement. After checking for obvious things like forgotten chocks, axle stands etc. we confirmed it was unimpeded but it still wouldn't budge. With the obvious causes ruled out, I jacked up the rear

and discovered that the brakes on both sides were fully applied (I doubt a fully depressed brake pedal could have applied more force). It is important to point out at this time that the car does not have a brake master cylinder installed, the hydraulic lines are all open at the front, and Alfasuds do not have a handbrake mechanism on the rear wheels.

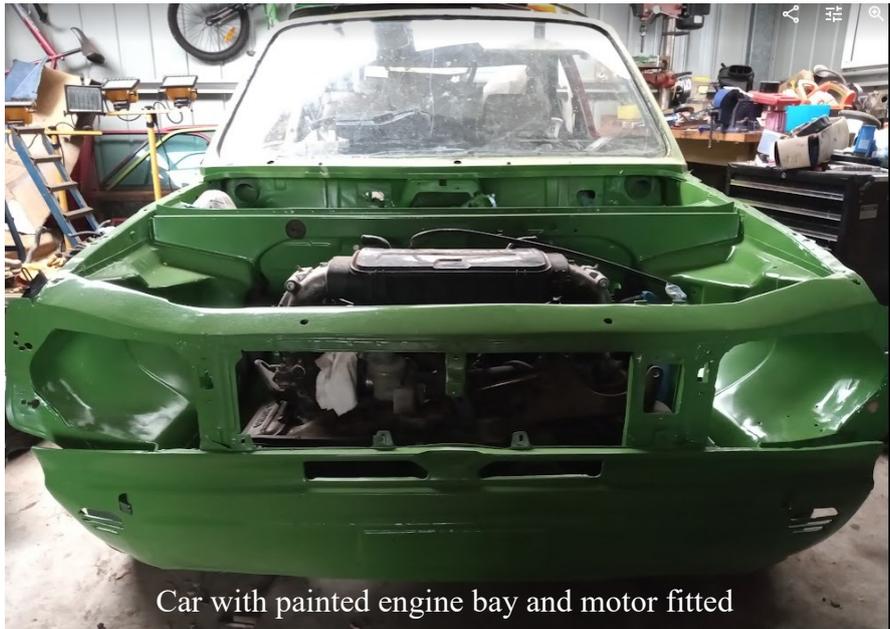
To get the wheels moving again I had to split the rear callipers and hammer the pads out. This fixed the problem and got the car moving again but left me and John scratching our heads as to the possible cause of the problem. Warped discs seem the obvious answer but the car had not travelled any further than it had on previous occasions so the section of the discs which had engaged with the pads had



The rusty bits cut out by John and replaced with fresh metal by Graham Mitchell

passed through the callipers many times before. There is a brake proportioning valve at the rear of the car that is designed to reduce rear braking if the rear of the car lifts but we had lifted the front of the car rather than the rear and it is my understanding that this device should alter flow rate of fluid from master cylinder (which was not connected) rather than build up braking pressure on its own.

I'm still totally unsure what could have caused this. The fact that both wheels were locked has me thinking it is hydraulic in nature but I can't fathom how that could have happened. If you think you have an explanation please send to [clubmotoritalia@gmail.com](mailto:clubmotoritalia@gmail.com).



Car with painted engine bay and motor fitted



Only a short step to this, boys!

“NO ONE KNOWS YOUR  
PASSION LIKE SHANNONS.”



The passion, the pride of ownership, the sheer emotional attachment – no one understands it better than Shannons. So when it comes to insurance for your special car, daily drive, bike or even your home, there's only one person you should talk to – a fellow enthusiast at Shannons. And remember, you can pay your premium by the month at no extra cost.

So call Shannons for a    quote on **13 46 46**.

**SHARE THE PASSION**

**INSURANCE FOR MOTORING ENTHUSIASTS | CALL 13 46 46 FOR A QUOTE | SHANNONS.COM.AU**

Shannons Pty Limited ABN 91 099 692 636 is an authorised representative of AAI Limited ABN 48 005 297 807, the product issuer. Read the Product Disclosure Statement before buying this insurance. Contact us for a copy.



## Non-Urgent Ambulance

**Bookings: 1300 363 911**

**24 hours a day, 7 days a week**

**Ambulance Private Pty Ltd**

### **FOGARTY AUTOMOTIVE SERVICES**

*General repairs on all Makes & Models*

Specialists in Fiat, Lancia, BMW Alfa Romeo  
including spare parts supply

**Steve Caplice**

0418 148 608

18 Wellington St North Hobart

North Hobart 7000 Ph: (03) 6234 8868

# drive your motorsport further with **stuart benson**



I'm really  
excited to offer you a  
**\$500 sponsorship**  
of your motorsport  
activity for each and  
every property listing  
that you refer to me,  
that results  
in a sale.

**stuart benson**  
PROPERTY CONSULTANT  
**0412 868 979**  
[sbenson@petrusma.com.au](mailto:sbenson@petrusma.com.au)

15 Shoreline Drive, Howrah 6247 7877

