

# Motor Vehicle Enthusiasts Club



No 136

# TRANSMISSION

APR 2020

If you find you need more information about this club or just can't wait to join ring Peet Menzies on 0417855222.

GPO Box 911 Darwin 0801

In Katherine call 89710605 .

Newsletter enquiries to Ted

# Now that's a shed!



Tim and Shani Modra's shed stands out. It would make any rural blockie or farmer happy, but running from the front of the block to the back and standing 5 metres tall, right in the middle of suburbia it is pretty neat. And that is a pretty conservative description. And because it is there and so imposing you could be forgiven for missing the neat garden art you just passed. Tim found the FB Holden front in the bush out back of Finlay's. He was looking for a Y frame for a ute but brought this one home anyway. A passerby was interested where Tim got it from. It turned out this fella's grandfather used to cut cars in half and dump them in the bush. Maybe this was one of em. But have a look in the shed...





**Donuts.** This is where it all started really. Back in 1989 when Tim was 20 yrs old, he had a mate who was an apprentice mechanic. One of the older mechanics was a Chrysler enthusiast and had done this 1977 Valiant panel van up for himself and his wife with the intention of heading off round Australia with a caravan in tow. But a family bereavement caused them to abandon the trip. Tim had been looking for a panel van at the time but hadn't actually been looking for a Valiant, but when this one was offered he bought it. It was in perfect condition running a 360 V8 and a 4 speed manual and was just like it is now with the aluminium bulbar and station wagon type roof rack. And off he went like any young bloke, to see all of Australia including the out-back at high speed. For 4 years he drove it all over the place. From Eyre peninsular, the Great Ocean Road, North Queensland Cape Tribulation, the Birdsville track 4 times, basically if he fancied going there, the valiant took him. Somewhere there he was working at the Birdsville races every year at the pub. The races were on the first weekend in September, this year the 1st was a Sunday so Tim headed down from Cairns, only to find out at Bedourie that it was on next weekend. Bummer! Not wanting to waste a trip he headed on for Adelaide as his sister was having a housewarming party the next night. Cruising at about 120 he bottomed it out in a floodway with the oil light coming on shortly after. He had put a split in the sump and lost all the oil. And right out there in woop woop. So he phoned the AANT. Not likely! He cut a patch from a bit of rubber air mattress, then a bit of foam rubber and a music cassette on top of that over the split, then a couple of occy straps from the shock tower on one side, under the engine, over the patch, and up to the shock tower on the other side. Put some oil in and headed back to Bedourie. At the council depot they put it up on the hoist to check the damage, but the council blokes weren't keen on welding because of the fire risk, so they plugged it with kneadable epoxy and adjourned to the pub for the night. And with the epoxy set in the morn they filled er up with oil and finished the trip to Adelaide. But they missed the party. The year was 1993. Tim flew back to Cairns.

He fixed the busted sump, but the car then sat at his Dad's place in the Barossa Valley. Basically it was pretty battered and there it sat for around 15 years until he trailered it to Darwin. By then it was a rusty wreck. It had been driven on beaches during its 4 years of intense use.



In 2012 Tim decided to do the Val up as a promotional vehicle for his business, The Outback Bakery, at Fannie Bay. He tricked up that magnificent shed to industrial safety standards and employed a panel beater full time for 12 weeks to completely dismantle and restore the vehicle to how it was when he bought it, just like new. Not to be just a show car but one that can be used, and to promote the bakery. During its refurbishment it received new sill panels inside and out, rear quarter panels, a new plenum and even new gutters. Interestingly, that engine that had the split in the sump needed painting. Thats all!

Then it was put back in. A pretty good motor. The only thing that was changed from new was the colour of the interior. It was originally brown but was painted black. The interior is now all black including the roof lining and the carpet.

The neat roof rack of the type you would regularly see on station wagons back in the days, was a bit of a problem. The supports that hold up the tubular rail were looking a bit sad so Tim had quotes regarding rechroming them. The results were staggering. In the end he buffed the support and bought a length of stainless tube from the steel supplier and took it to the pipe benders. The result looks great and the cost minimal. Way back in the exercise, Tim had envisaged the number plate to read "DONUTS" as a plug for his business. Alas when he approached the rego people they pointed out that that numberplate was already taken. But after making him sweat for a bit they pointed out that the owner of that plate had not renewed it for two years and it had lapsed. A couple of days later they contacted him to come and pick up his new donuts. But of course every good shed has a lot more than one neat thing.

Tim's trailer is no ordinary trailer. He built it himself to his own plan and built its twin, which he sold to Nutwood Downs Station. What he made on that deal paid for the material to build his own trailer, which is a pretty solid unit with appendages that certainly make it unique. But what makes in out of the ordinary is the fact that someone else thought it was so good that they took it home without Tim's blessing. That was in 2011. I remember putting an ad in this publication asking everyone to look out for it . It stayed missing till 2015. 4 years later Tim was filling up with fuel at Adelaide River when he spied his trailer in the yard. He challenged the "owner" right there, who claimed he had done a mechanical job for someone and they had paid the \$1500 bill with the trailer. Tim pointed out the trailer was worth a lot more than that and took it home.



*The wayward trailer. The heavy duty tie down points give it away for a start.*

## 1938 Plymouth Model D

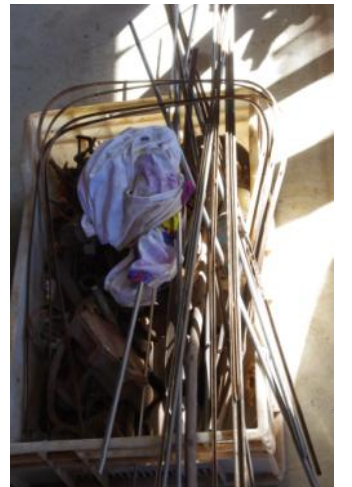
Tim bought this car from a club member some years back. Another club member, when he saw it reckoned it was a car that had belonged to his Dad or his uncle years ago. The more he saw of it the more he was certain of it being the car that went missing from a paddock at Winnellie years ago probably in the early seventies. Whatever its origins the body is remarkably straight and rust free. The previous owner had had the engine running but Tim was in the process of pulling spark plugs when the porcelain off one disintegrated and fell into the spark plug hole and into the cylinder. After considering many dodgy ideas from you tube to get the broken bit out, Tim decide the safest way was to pull the head off, after all it is a side valve, so a small matter to remove the head and remove the offending piece of spark plug. Consequently the engine currently is awaiting a new head gasket. The big decision is what to do with the car. He could get it going and leave it scruffy or redo it back to its original condition. Its not an urgent decision however. Tim is not gonna run out of stuff to do.

Check out the promotion video of this car, called "trial by torture"

<https://www.youtube.com/watch?v=o4JQTG634Wc>



*The interior is not exactly pristine but there are mobs of spare panels and stuff, and the bits that need to be are smicko, like the instrument panel. And over the years the previous owner keeps finding more stuff that goes with the car, like these boxes of chrome bits. By the labels on the bits, someone has been shopping at secondhand shops and the like.*



**1974 VH Town and Country ute.** Have you ever noticed that once people know you have an old car people often try to put you in contact with other old cars. It became known around 15 years ago that Tim had A CL Valiant ute parked up in SA. That prompted another Valiant owner to inform Tim that someone else had pointed out to him that there was an S series Valiant for sale in Katherine. The other Valiant owner was not interested, but passed the info on to Tim. Tim rang the number and enquired about the Valiant for sale, to which the answer was, which one?



There were several. It turns out this bloke owned a block on which his brother in law lived in a caravan, and the brother in law collected cars. Hundreds of em and bits of them too. And he had topped himself, leaving it to the brother in law to clean up the block. The brother in law was a scrappie and was selling cars for their value as scrap metal. \$150 each, F100's were \$300each. So Tim grabbed his trailer, compressor, trolley jack and a half a dozen spares and headed down to Katherine where he bought 7 cars, then trailered them to a mates place far on the other side of town. In one day he bought this 74 VH Town and Country ute, a VG 1970 sedan, 3 F100's, an S series and a VE ute. At the end of the day he took one F100 back to Darwin with him. Then he sold them all except the 74 ute and the 1970 sedan.

The ute was quite straight topsides but basically the bottom 2" had rusted away. Tim has cut the floors out and has floors from a donor car, ready to weld in. But as it often happens to all of us, some urgent matter dragged him away from the job and after considerable time he hasn't made it back just yet. The plan for this car is to fix it up structurally and mechanically but leave the paint and panelwork where you can see it, just as it is. It is to be used as a bush car for fast travel on challenging outback tracks. No big spotties, no bull bar, maybe some 14" high profile tyres. At this stage he hasn't decided whether to keep the original 265 six and 4 speed or to swap it for a 318 8cylinder. Tim has no shortage of these engines.

You don't see these sorts of cars out in the bush anymore, its all fancy 4wd's and they don't offer any challenge. This car is the answer, apart from being a bit different from all those modern generic 4wds, Tim intends to set some times between maybe Mt Dare in SA and Tennant Ck, going the back way via bush tracks. It is wide open spaces down there. If you come across another car there is plenty of time to slow down before it gets near. Another possibility is from Dunmurra to Timber Ck via the back way. The idea then is to park the car at a mates place in Tennant and invite him to use the car and see if he can better the time.



*Tim has cut out the rusty floors. The new ones are waiting in the tray of the ute (below) The uppers bits of the car are not bad.*



*Below: The sills are a bit poor.*



## 1970 VG Pacer

Tim spied this car in the trading post years ago back in the days before they had photos in it. It was at the RAAF base and the price was \$7000. Tim rang him and he said he would take \$5000. A bit later Tim checked it out on a Sunday where the feller advised he was leaving town tomorrow. Tim offered him \$3000 and became the new owner. The car wasn't original with a Celica 5 speed and a non original engine. Tim bought a bash car that had had a re-con engine in it. It was done up for the bash and only done 3000kms so that motor went into the pacer. Some years back Shannons used to rent the Hidden Valley track and put on a show for all the Darwin car clubs and you could get out and hoon round the rack. Tim fixed up some restraints in the back and took his kids for a spin in this car. All was going well last year, the car was painted and every night it was coming together until one of those things that happen that just can't wait, happened, and the Pacer has since been gathering dust. But is at the top of the job list!



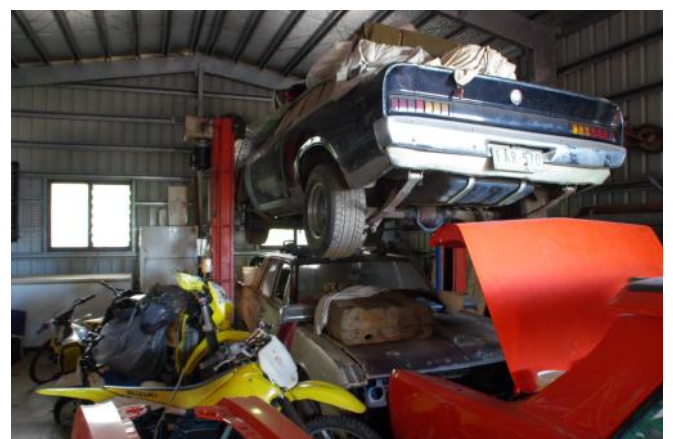
## Hey Charger!

This is one of the first cars Tim bought, around 2001. Once again from the trading post before they had photos. The car was in Melbourne advertised for \$2000. Tim rang the owner and offered \$1800 and he could hear the wife in the background shrieking they wouldn't take less than \$1900. It was a 265 and a hottie and the bloke assured Tim he had driven it at 200kph and it had been re-painted and looked good. Tim took it all with a pinch of salt but bought it for the \$1900 sight unseen and had it trucked to Darwin. When he went to Patricks trucking depot to pick it up he admired the nice black charger parked there but went into the office to enquire where his not so nice car was. He was told there was only one Charger there and the one out front was his! It did have one of the front guards a different colour but was big mobs better than what he was expecting. And the engine was definitely a hottie and was lumpy enough to spill your coffee. Tim also drove this car at Hidden Valley with the kids in the back. He had a winner this time for sure.



*Above: The Charger on the track at hidden valley when we used to have Shannons days. This is how the car was as he bought it.*

*The Charger is stored above the rest at the moment.*



### 1970 VG 770 SEDAN

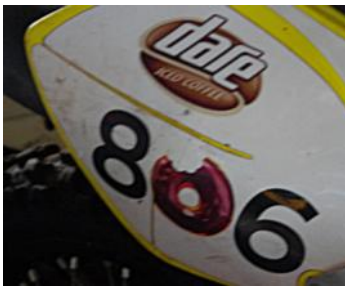
This is one of the cars Tim bought in Katherine for \$150. Missing a bit of paint but remarkably straight and rust free Tim decided it would be a good car for the Desert Bash a couple of years ago. He pressure cleaned the floors and door inners and painted them, installed a V8 front end with a 318 V8 and Supra 5 speed gearbox. Then he pushed it to the back of the shed and there it has been ever since. By the way, someone told him 318s are a bit rare these days. They are not rare around this shed, under benches shelves, you might find one anywhere.



### Tim's Finke racer

There are 10 bikes in this shed, the whole family rides bikes, but the one of interest here is the DRZ400, the bike Tim rode in the Finke desert race. Trust that Tim reckons the bike is a beauty and survived a couple of high speed getoffs and finished in one piece, but notice the race number. Especially the zero.

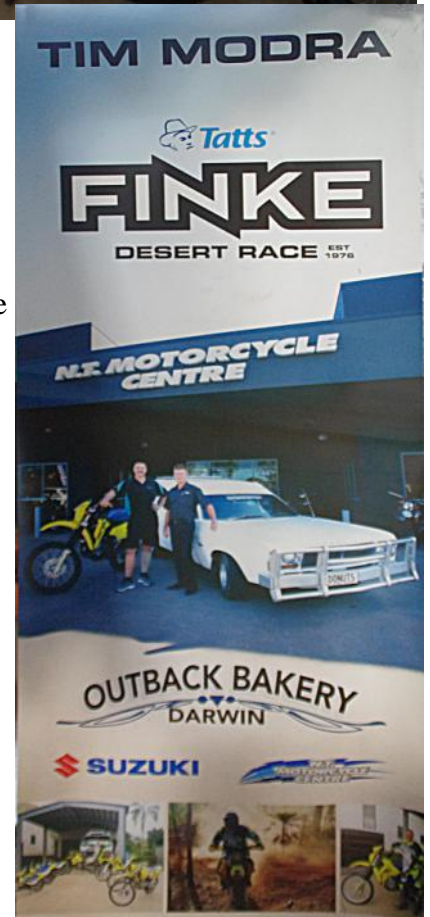
It is actually a donut, complete with a bite missing. Tim used the race as a promotion for his bakery. He was a bit apprehensive they may give



him a hard time over the number and he actually took some normal zeros just in case, but all was cool. And at scrutineering all the bikes and cars are on display to the public, so Tim baked a large bunch of chocolate donuts to hand out. And at one of those high speed getoffs, once he had found his bike and remounted a couple came out of the bush to congratulate and applaud him on an excellent crash. Once under way again he was concerned something was wrong with his vision. Something was amiss but he couldn't figure what it was. It turned out that when he had crashed he had landed face first in the dust and implanted half a teaspoon of sand into each goggle and when he would hit a bump it would jump up in front of his eyes.



*And every shed needs an old bike: A 1946 Royal Enfield 350 Model D*



## 1974 VK 770 Charger

The 770 indicates an upmarket model with flasher chrome, flasher vinyl and a fishscale dash, 318 V8 with auto transmission.

An MVEC member had this car up for sale, but Tim didn't have the spare cash nor anywhere to put it. He was living in rented accommodation at the time.

Move forward several years and the same bloke, who no longer resided in Darwin, walked into Tim's bakery. Remember me ? He asked.

Do you still have the Charger?  
Yep.

Do you still want to sell it? The answer was yes so Tim asked him to bring it around.

He did and Shani took it for a drive and was keen to buy it. Then the big question. How much do you want? (The price those years before was around 8-\$10000) The asking price this time was \$6000. The deal was agreed on, payment tomorrow. When they picked the car up next day They were advised that another Chrysler enthusiast had got wind of the Charger for sale and had offered \$10000 that morning. Lucky old mate was a man of his word and advised that the deal and the price had been agreed on and sold it to Tim and Shani as agreed.

That was back in about 2012 and Tim has had to do almost nothing to it. There was one embarrassing incident recently when on the way to the chrome bumper show at the wharf. The Charger decided to conk out at the lights in Mitchell St and would not start again. They had to push it off the road. But the problem was trivial, just a rub on the carbon brush in the distributor cap and away she went.

I remember another time during the Rejex rally a couple of years ago when Tim and his brother Eddie were having trouble with the steering jamming during the hoon turns you do when competing in Rejex. It had them stumped for a while until they discovered a broken engine mount. With the engine mount broken it was just gravity holding the engine down on that side, and when they would pour on the power coming out of a turn the engine would pivot on the other engine mount and jam up against the steering and you couldn't steer till you eased off on the accelerator. The fix was pretty easy. A ratchet tie down over the engine held it where it was supposed to be. That fix stayed there for quite a while until the engine mount got replaced.



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And right in the middle of the shed is the most civilised bathroom and dunny that you would find in any house. There is a mezzanine floor too to stash all that stuff that you cant find room for.





### Buying the same bike twice

There is a bit of a story to one of Tim's kids DR125's here. Tim bought it twice. You see one Sunday Tim got up to find someone had unbolted a panel from his front fence and wheeled the bike away into the nether. After a year he decided he wasn't going to get it back and went looking for another one. He found a suitable one advertised at Bees Creek and went to have a look. The lady selling it explained she had bought it for her daughter who doesn't like it so she may as well sell it. Tim told her his sad story of the theft and bought her bike. When he got it home and it was up on the trailer he notice a couple of mods on the bike. They were the same mods as he had done on the stolen bike. But anyone



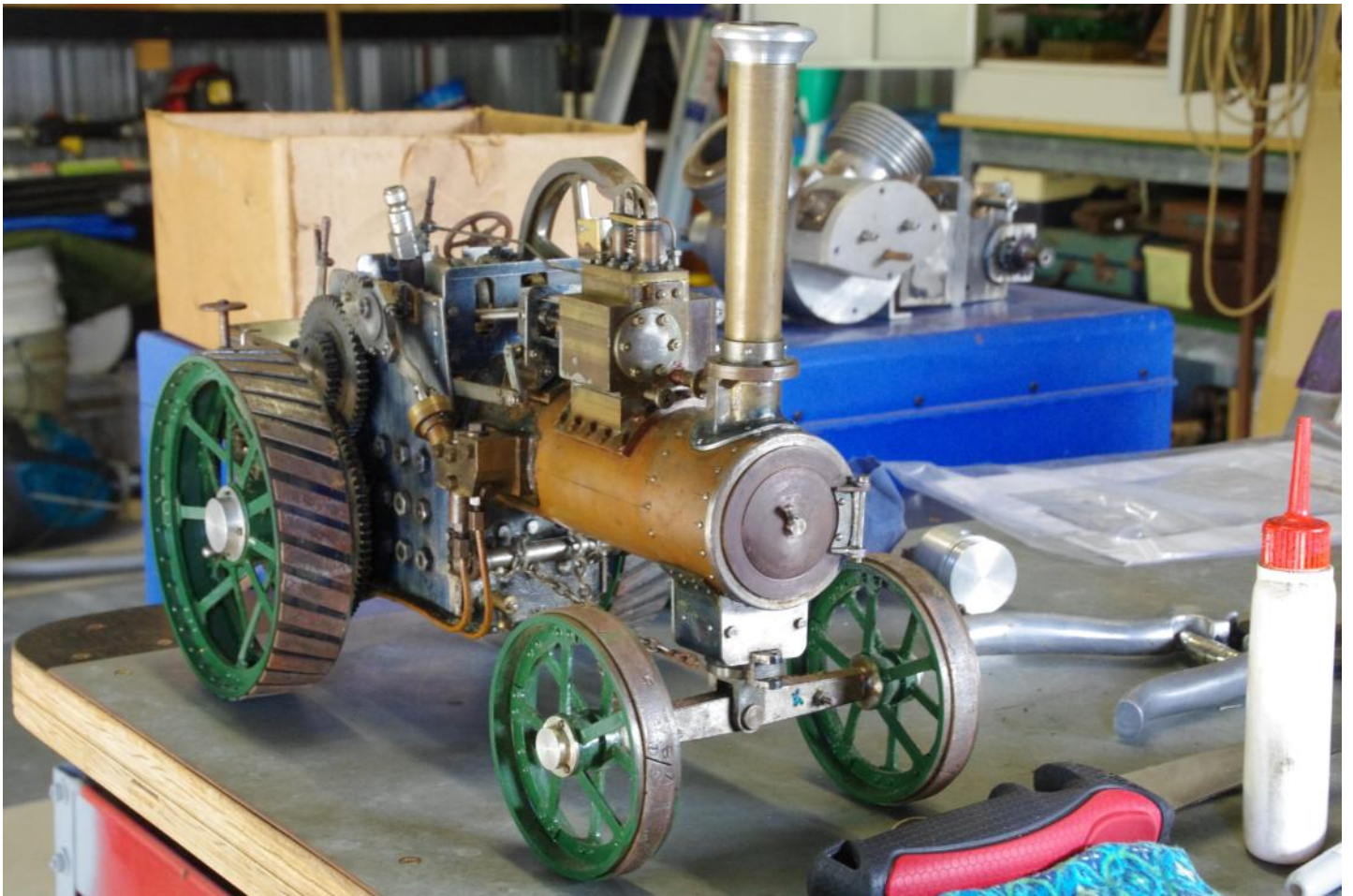
might have done those things as they were pretty common. But he kept finding more. There was a certain aftermarket breather cap. He started to get suspicious. He still had another bike (another kid) that was exactly the same as the stolen one and he had put new chains and sprockets and tyres on both bikes before the theft. The bike he had just bought had the same unusual brand of chain, same brand tyres, but what made it certain was the unfaded patch of plastic where a square decal had been removed. Tim went back to the lady with both bikes and showed her the similarities and told her straight that this was the bike that had been stolen. She gave him his money back. Tim gave her the details and the number of the police report when the theft happened and offered to help in any investigation. He rang her later to see how she went with it all. She replied the cops tore strips off her for giving the bike back!! The bike was away

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And just to fill the last bit of room in this massive shed there is a 4WD Mitsubishi Canter ex tourist bus. They are not into the tourism business but have a big family and they all fit in here.



**After 10 years**, the wife starts to think their kid looks kinda strange so she decides to do a DNA test. She finds out that the kid is actually from completely different parents. ....  
Wife: Honey, I have something very serious to tell you.  
Husband: What's up?  
Wife: According to DNA test results, this is not our kid...  
Husband: Well you don't remember, do you??? When we were leaving the hospital, you noticed that our baby had pooped, then you said: "Please go change the baby, I'll wait for you here. " So I went inside, got a clean one and left the dirty one there."



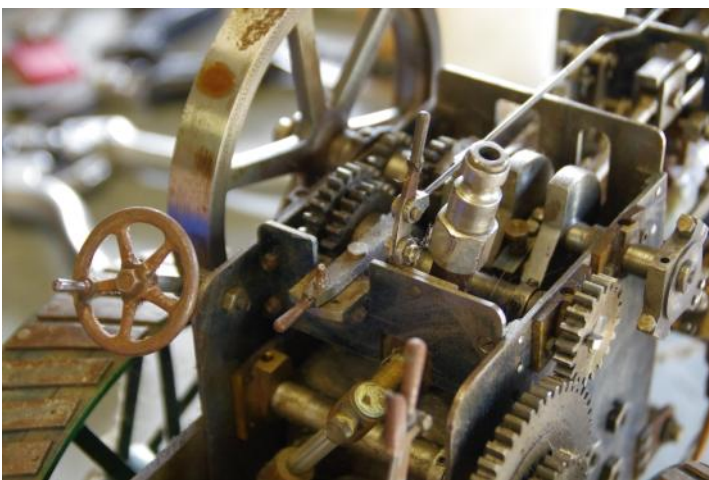
### Jack McKay Collection

MVEC has recently been gifted a whole library of books on the subject of model engineering. The collection belonged to Jack McKay who passed away last year and has been donated by his son Ian.

I had the pleasure of viewing Jack's work and am able to give you a bit of a look at some of Jack's fantastic work. Jack had been a farmer and a mechanic in his time but never a fitter and turner. But maybe if he had been, he might not have had the passion to turn out this magnificent stuff.

The showpiece is the steam traction engine "Minnie", built in the 1980's, but other engines are just as impressive. All carved out of hunks of steel and Aluminium!

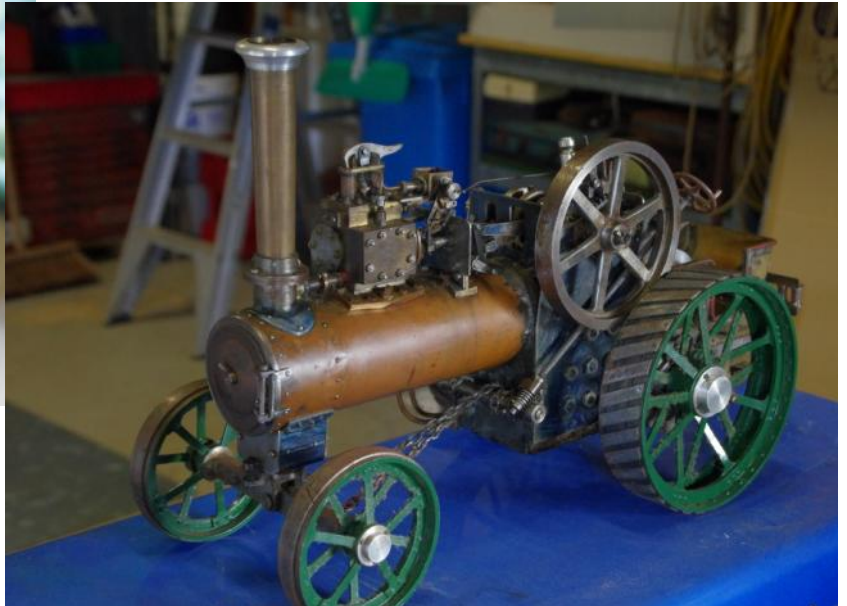
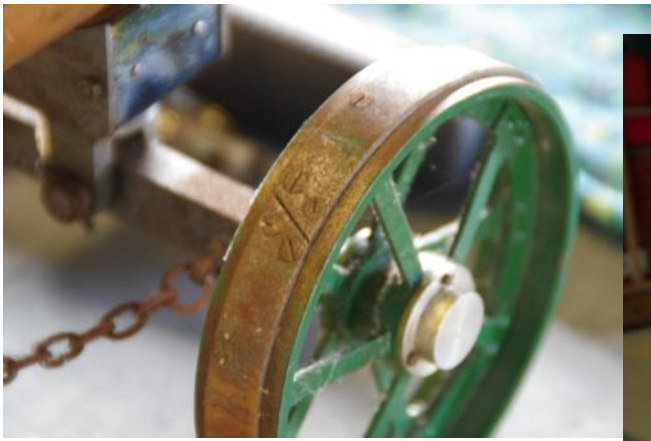
*"Minnie" is about 18" long*



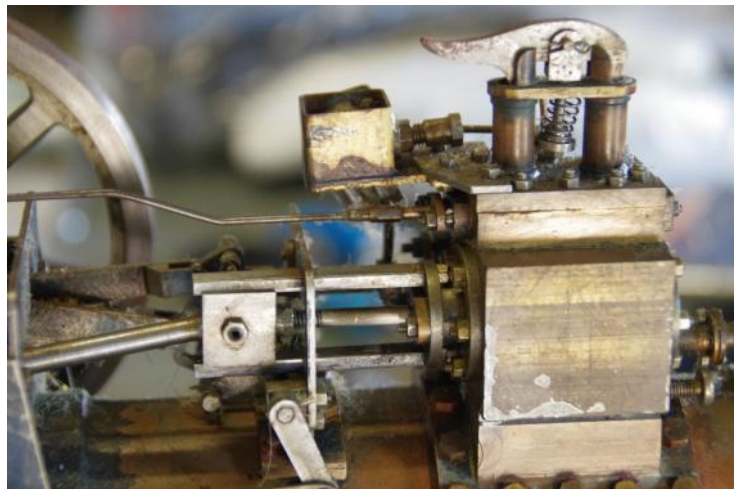
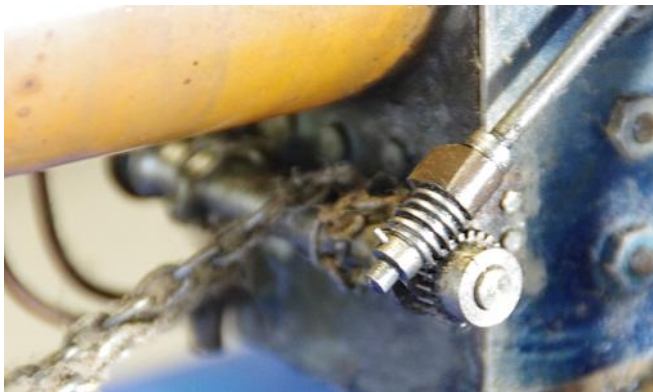
*All Jack's steam engines have been run on compressed air to verify that they work. You can see the air coupling sticking out through the gears.*

*Even the wheels are works of art. All the spokes are held in place with rivets. Note the treads are also riveted.*

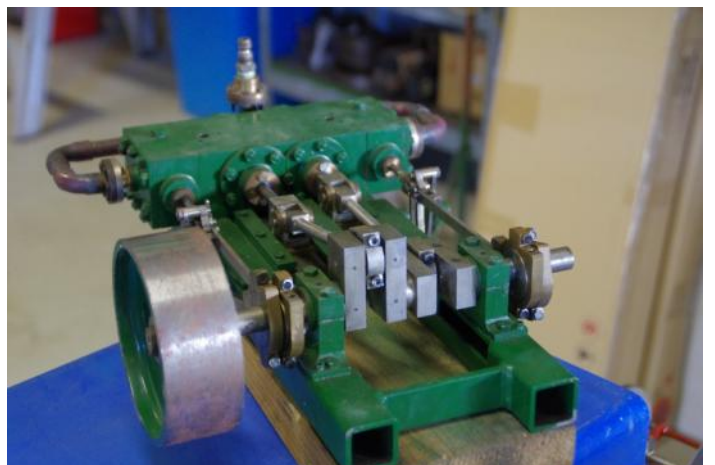
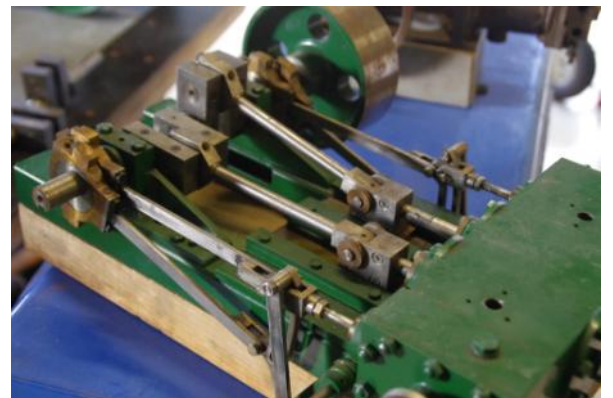


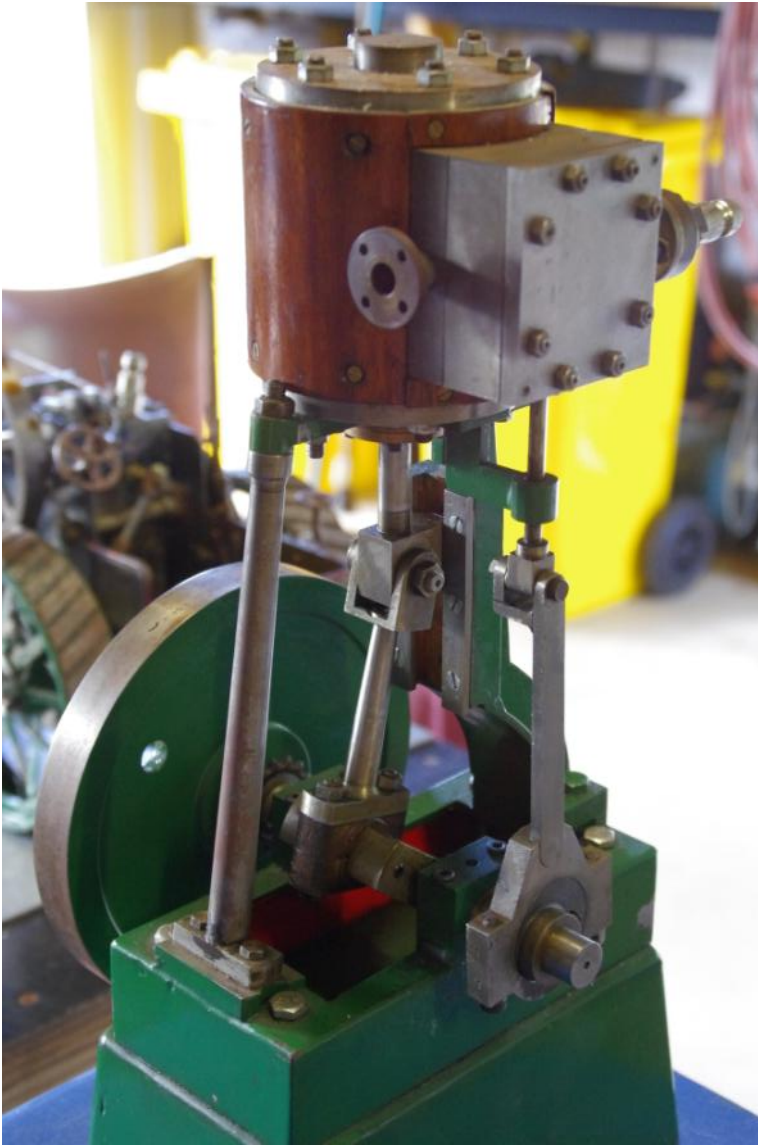


*Front tyres are radial tread and screwed on. Jack's original plan was to pull the thing to bits and paint it once he had it running. But I guess building more engines is more fun than pulling them down. The marking out dye makes a sort of paint I guess. Below is the steering gear and to the right is the actual steam engine*



*But there is more than just the traction engine Minnie” Here s a twin cylinder double acting steam engine. The crankshaft would appear to be for the same engine. Maybe it was a prototype, maybe he was going to run the engine till it wore out and might need a spare or maybe he was going to build a similar engine. Whatever the reason, it is a beautiful piece. You can see clearly that it is built up and pinned.*

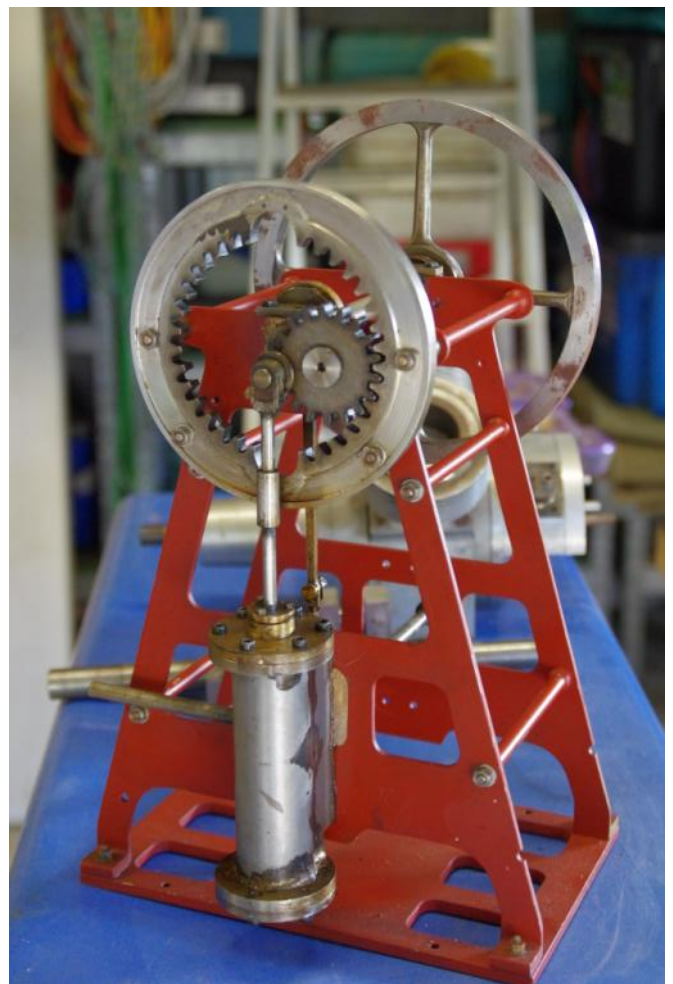


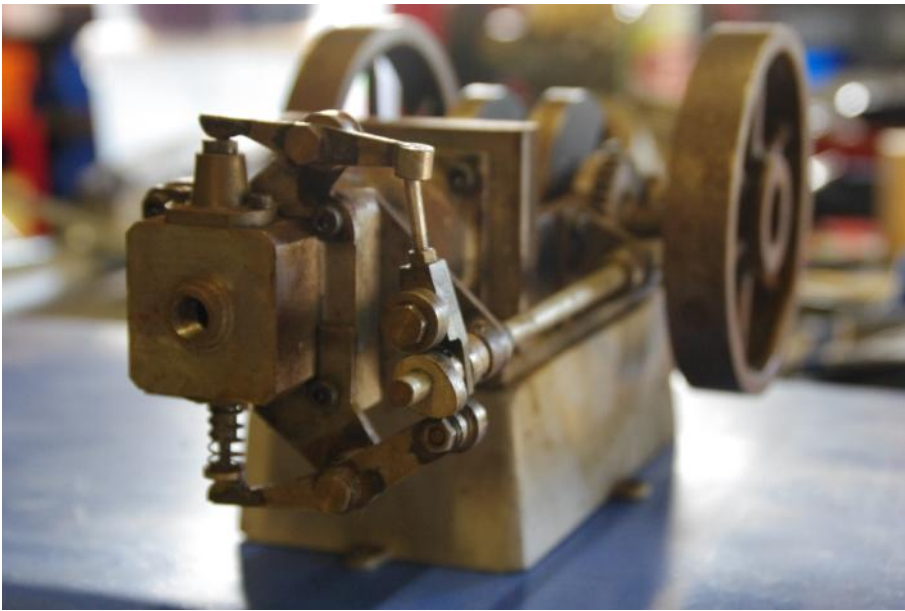


*And for every horizontal engine you need a vertical one to keep things even. Once again running on compressed air. Check out the detail even goes down to the flywheel key.*



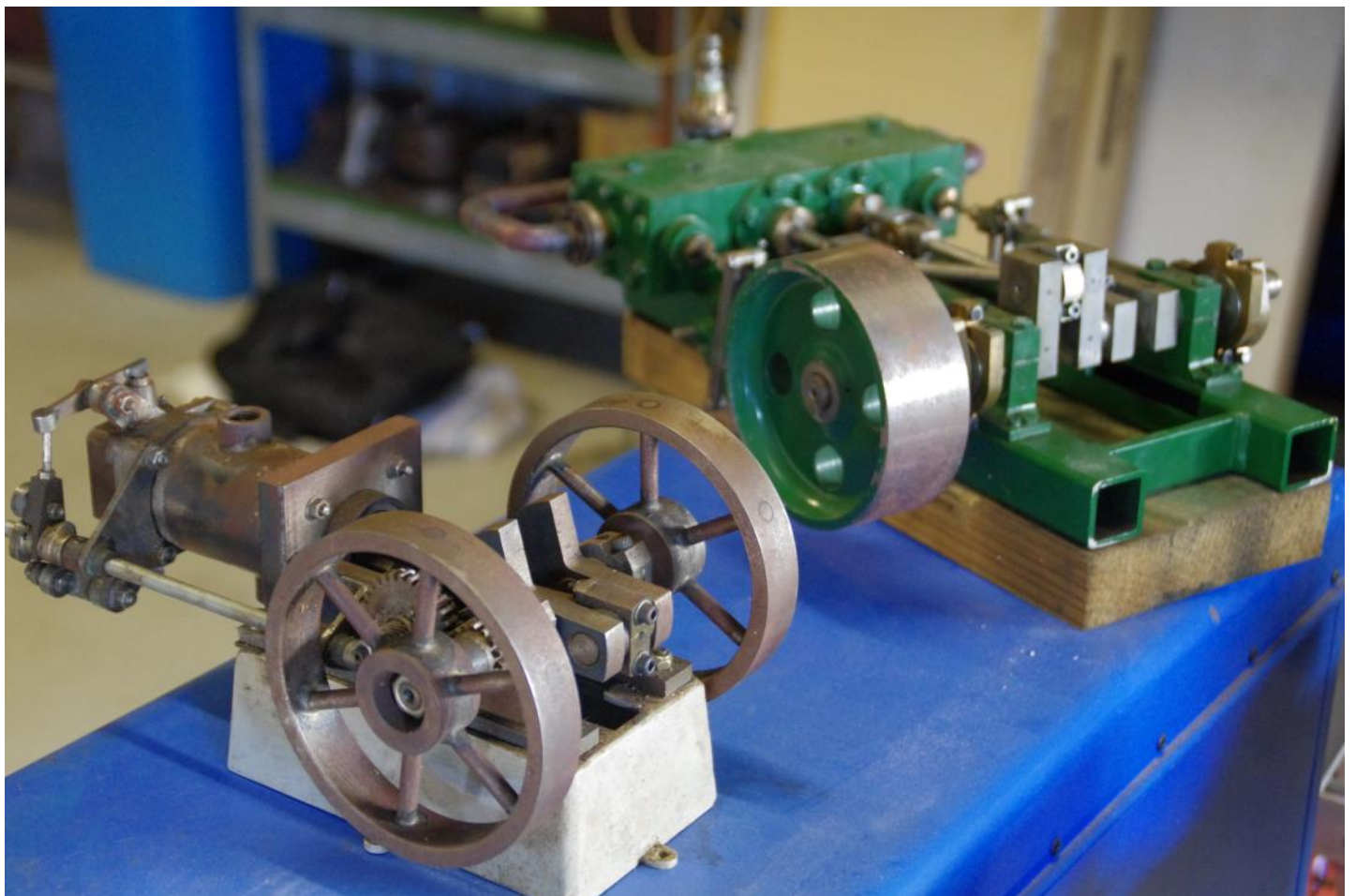
*Heres a steam engine thats a bit different. The rod has no pivot , it just moves straight up and down, and the planetary gear goes round and round with the larger gear turning slowly.*

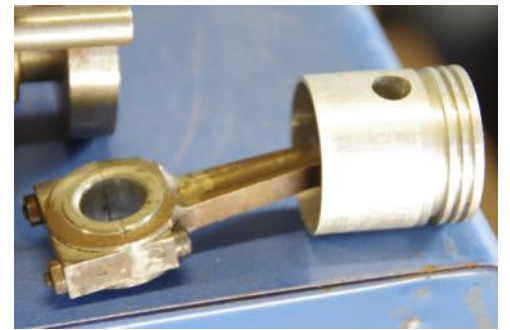
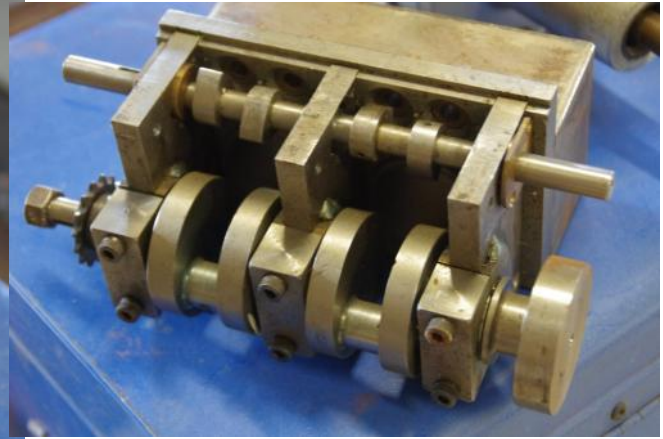




*This engine was meant to be water cooled. Here is the upper connection to the water jacket.*

*But Jack didn't only build steam engines . He got into internal combustion engines too. Above is a horizontal oil engine complete with side shaft. Below is a smaller version also with side shaft.*





*Another internal combustion engine, overhead valves this time and twin cylinders, but this was never finished. Note that the crankshaft in this engine is turned in one piece, note also the radiused ends of the crank pins, without which the crank may possibly break. The piston and conrod are ready for fitting . Note also the conrod has removable bearing shells. All made by Jack.*



*And another twin cylinder internal combustion engine. Overhead valve but in V configuration this time. You can see where the pushrods fit to the right of the cylinder. Note also these aluminium cylinders have steel or cast iron liners . Another unfinished project ,but it seems to me there have been many items unfinished by past masters of their occupation. This applies to artists and composers, and now model engineers.*

*And one last masterpiece. We are not sure what it is but it appears to be a slide valve off a much larger steam engine.*

*Jack missed out on his 91st birthday by just 12 days.*



## Machinery Guy who got Run over by his 1923 8HP Austral Stationary Engine

For you non-old engine types, an engine like this is pretty large and weighs in order of 2 1/2 tons. And it is something that just sits there and runs and is cool. It might provide power for some kind of machinery or farm bizzo, but you don't drive it about. You cant drive it about, it just sits there. So how could you get run over by one? Its best told in Joe Young's own words.....

“ This is my large stationary that I enjoyed getting going. Engine number 4552, built in Ballarat Vic in 1923, bore 7.5 ins stroke 13.25 ins. Petrol and magneto start and power kero run when hot and the magneto is deactivated. It is water cooled with a cooling tower and a 200 litre water belly tank.

My misfortune happened in Tassie after a three day Show at the Westbury Steam and Machinery display in November 2019 and bringing the big engine home I was in the process of unloading the engine off the trailer and as it came down the ramps the winch cable broke and as I was in front of it, guiding it down with an extended draw bar, I was flicked over and was run over by one front wheels before the engine came to rest with me pinned by one front wheel. Lucky Joe only suffered a very bruised knee and lower right leg and two broken ribs. I was transported to the Royal Hobart hospital by Ambulance.

Two other funny things happened during the course of the afternoon on the way from Hobart. The ambulance was involved in an accident when side swiped by a vehicle pulling out from the local hotel car park, so when it arrived at my place the side door would not open and a back up ambulance had to be sent out for my trip to hospital. On the trip in to Hobart the driver asked me how I was travelling. Ambulance was at that time on the main hwy so I told the driver that he was a great driver. Happy for the praise he asked me why I had said that, so I told him that I had lived on the secondary road we had just left for 45 years, and he had not missed a single pot hole. His paramedic nurse burst in to Laughter. The driver was a bit stunned.

Lucky for me I have come right and the big engine was not damaged and is still a great runner.

Regards Joe Young.”

*Editor's note: Perhaps Joe may be safer with the likes of Jack Mckay's model oil engine. Jack's engine is based on an engine similar to Joe's but is a lot lighter.*

**You can read about the stuff Joe had in has shed in 2011, he has a lot more now .**

**Back issue of Transmission no 55 [https://mvec.weebly.com/uploads/2/9/4/7/29472177/55\\_july\\_2011.pdf](https://mvec.weebly.com/uploads/2/9/4/7/29472177/55_july_2011.pdf)**



## Repair Mistakes & Blunders

A few years back, my brother's trusty truck would not start. I hopped in and realized it would crank over just fine but would not start. I pulled a plug wire and saw spark, then put a fuel pressure gauge on the rail and saw nothing. Ah Ha! I swapped the fuel pump relay, but nothing. I checked the rollover switch; it was OK.

At this point, I decided the fuel pump must have given up after its 200K miles of faithful service. I went through the somewhat arduous task of removing the bed to access the top of the fuel tank and replacing the rusty fuel pickup assembly and pump.

Proud of my diagnostic skills and feeling satisfied, I put the bed back on and turned the key, it cranked over but would not start! I stared at the dash in defeat and noticed something missing, there was no CHECK ENGINE light illuminated while the key was in the ON position! I scanned a schematic and realized the computer had an independent ground that went to the battery. When I traced the wire it was lying in the rust under the battery.

Apparently when my brother replaced the battery years earlier, he left the wire off, and it made ground contact through the battery tray...until that weekend. As soon as I reconnected the wire to the ground terminal, the truck started right up.

Lesson learned: Look for all tell-tales before diving into more involved work.

Ryan in Maryland

And a bit more on earthing

## Believe in Bad Grounds Tom's Story

I have read manufacturer tips about checking ground connections before replacing electronic parts. I have even written articles about checking ground connections, adding ground wires, and using voltage drop testing before replacing parts. But despite all my wisdom, I still went ahead and unnecessarily replaced the Engine Control Module (ECM is Ford's EEC-IV) on my wife's 1993 Ford Tempo when the ECM really "just" had a ground connection problem.

A Hemmings article on Ford's EEC-IV says it is known for "extreme sensitivity to ground circuit issues" and "a high-impedance ground would drive it crazy." Rather than feeling too guilty for not practicing the grounding rules that I preach, I feel like the "crazy" EEC-IV has taught me additional Yoda-level grounding knowledge that is valuable to owners of other computer-equipped vehicles.

Parts that temporarily fixed the problem

Parts that temporarily "fixed" the problem

1. With grounding problems, new parts may bring relief, but that relief may also be increasingly short lived. A grounding problem can persist for years. Replacing parts can temporarily fix/hide the problem for years as well. Disconnecting/reconnecting electrical connectors, removing/reinstalling mounting bolts and/or a fresh, completely in-spec. part might be enough to improve the ground connection. But, the root-cause grounding problem might still be there and possibly worsening.

The fuel pump in my wife's Ford would stop (no sound from fuel tank). A new Ignition Starter Switch fixed the problem for a few years and a new Fuel Pump fixed the problem for a few more years, cleaning the electrical connector on the Body Control Module (BCM contains the fuel pump relay) fixed the problem for another fourteen months, replacing the BCM fixed the problem for two days, replacing the ECM fixed the



problem long enough for one round-trip to the grocery store. Forums are full of posts from Tempo, Mustang and other Ford EEC-IV owners with nearly identical stories. They gradually replace all the major parts connected to the circuit, reporting temporary success after every install. Sometimes, they start replacing the same parts for a second time and those new parts fix things for an even shorter period of time or don't help at all.

2. It looks exactly like a desktop computer problem, but that might mean your old PC just had a grounding problem too. After a cold-start, the engine in my wife's Ford would run for about ten minutes and then the fuel pump would shut down. After a minute or two, the fuel pump would come back to life and the engine would restart and run another three minutes. The Ford's OBD I diagnostic connector conveniently has a pin that turns on the fuel pump whenever it is grounded. The fuel pump always ran fine with that pin grounded, so it was not the fuel pump overheating. (The ECM turns on the fuel pump relay by providing a ground, so manually grounding that OBD I connector pin might provide a good ground connection to the fuel pump relay that the ECM no longer has on its own.)

I guessed that an electronic component on the computer's circuit board was overheating, shutting off and restarting after cooling down. That is when I finally replaced the ECM and enjoyed one trip to the grocery store before the fuel pump stalling started again.

Old PCs and laptops also sometimes repeatedly shutdown and restart as they heat up and cool off. The last time I had a PC do that, I called the computer manufacturer and was told to unplug all the cables and hold the computer's power button in for thirty seconds to "drain away static electricity." The PC was not dead, it was just experiencing something similar to a grounding problem.

3. Accept the solution even if you cannot adequately explain it. I spent six long years studying electrical engineering, and I wanted an elegant solution. I had replaced, tested and/or cleaned every part, connector and ground connection I could reach. In the '80s, there is no way Ford Engineers could have known how well every ground path in their EEC IV designs would hold up after thirty years. I decided I would try to enhance their original design.

I took a 12 ft. long battery Jumper Cable (available at RockAuto.com!) and clamped one end to the engine ground near the battery, then with the ignition key on and the car in its broken state, I started clamping the other end of the cable to metal points all over the car while listening for the fuel pump to start up. I had some inconsistent false positives but finally found the sweet spot when I clamped the ground wire onto the large Spare Tire Hold Down bolt in the trunk. With that bolt grounded, the engine/fuel pump stayed running indefinitely and always started up immediately. I am guessing my jumper cable was providing a new ground path for the nearby fuel pump. Maybe the fuel pump's ground path had changed over time, sucking the life out of the sensitive computer's ground path at the front of the car. I would probably have to get my doctorate in electrical engineering to know for sure.

The jumper cables running over the roof of the Ford looked tacky, so I ran some heavy gauge Primary Wire I had on hand from the main engine ground to a new bolt on the firewall and then I ran more wire from the engine ground to three separate new bolts mounted near the spare tire well in the trunk. There was an unused hole and grommet in the right front door jam so the new cable installation is professional-looking and out of sight. All the heavy wire might have been overkill, but I wanted to make sure I did not inadvertently burn up a too-thin wire, and I wanted to be sure that both the computer at the front of the car and the fuel pump at the rear of the car had excellent, independent ground paths.

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### Stuff on the net

Sheilers shooting guns. Nothing to do with cars. Just have a laugh. [https://youtu.be/nacs7Zs\\_Dfg](https://youtu.be/nacs7Zs_Dfg)

An interesting presentation of early road making in USA <https://www.google.com/culturalinstitute/beta/exhibit/twJCUuaVA4eXIA?referringSource=articleShare>

A massive private collection of old Ford cars and trucks. <https://www.youtube.com/watch?v=bzB-I-ChII&feature=youtu.be>

I wonder if it ever occurred to someone that rhinos might like a bit of time to themselves. Have a laugh. <https://www.youtube.com/watch?v=pRvEfSkhIuI>



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### Previous editions

All previous editions of Transmission are now available at [mvec.weebly.com](http://mvec.weebly.com)

Three Aussies were all applying for the last available position on the New Zealand Police Force - Traffic Division. The detective conducting the interview looked at the three of them and said, "So y'all want to be cops, huh?"

The Australians all nodded. The detective got up, opened a file drawer and pulled out a folder. Sitting back down, he opened it and pulled out a picture, and said,

"To be a police officer, you have to be able to detect. You must be able to notice things such as distinguishing features and oddities such as scars and so forth."

So saying, he stuck the photo in the face of the first Australian and withdrew it after about two seconds. "Now," he said, "did you notice any distinguishing features about this man?"

The Australian immediately said, "Yes, I did. He has only one eye!" The detective shook his head and said, "Of course he has only one eye in this picture! It's a profile of his face! You're dismissed!"

The first Australian hung his head and walked out of the office. The detective then turned to the second Australian, stuck the photo in his face for two seconds, pulled it back and said, "What about you? Notice anything unusual or outstanding about this man?"

"Yes! He only has one ear!" The detective put his head in his hands and exclaimed, "Didn't you hear what I just told the other guy? This is a profile of the man's face! Of course you can only see one ear! You're excused too!"

The second Australian sheepishly walked out of the office.

The detective turned his attention to the third and last Australian and said, "This is probably a waste of time, but....." He flashed the photo in his face for a couple of seconds and withdrew it, saying,

"All right, did you notice anything distinguishing or unusual about this man?" The Australian said, "I sure did. This man wears contact lenses." The detective frowned, took another look at the picture and began looking at some of the papers in the folder.

He looked up at the Australian with a puzzled expression and said, "You're absolutely right! His bio says he wears contacts! How in the world could you tell that by looking at his picture?"

The Australian rolled his eyes and said, "Work it out for yourself mate. With only one eye and one ear, he certainly can't wear glasses."