

# RUSS Pavey and KEN Lowe Race Report



## WINTERNATIONALS 7-10 June 2013

We want to start by saying a very big thanks to all of our sponsors who help us so much and we are very proud to take their message to the FINISH line.



Our crew of Pete Richards, Brett "Robbo" Roberts, Gary Dobson all produced a terrific effort and are hugely responsible for any success that we have.

After our return from Sydney each of us went off in our different directions. It seems Ken gave the flu bug to Robbo for that Robbo thanks Ken so much/sarc. The next day Russ is running his tool business in Nerang and Burleigh, Robbo works for the pump company as a field rep, Pete does fabrication for a swing loader manufacturer and Ken is making parts on his CNC and doing fuel systems, when he is not rebuilding his Ferguson tractor.

17 May Finally we have entered for the Winternationals, on the last day, not that we wanted to enhance the drama but that was the day the credit card was clear enough to pay almost a thousand dollars for our entry fee with all the necessary passes. It is here we will muse as to what a pro golfer, tennis player or a pro footballer would pay to get to participate in their sport? The question is rhetorical as we already know the answer, and that is one of the many reasons that Slamfest is so appealing.

18 May Robbo has brought the used clutch parts out to Ken's shop to get ground up as spares for the Winternationals. The car is back at the shop in Coomera and we have to schedule a work session on the car just to insure it is completely ready for the Winternationals. One thing for sure we do have to mount the charge and release solenoids on a rubber mounted plate as we sure don't want them to charge again due to vibration. Looks like a stop at Clark Rubber.

The box of clutch parts are sitting by the grinder but it is a beautiful day and there is a race on at Willowbank so Ken decides to have a look at what is going on at Willowbank before starting on the clutch stuff. Ya, procrastinating from doing a dirty job. Why do you think clutch guys all wear black? They don't, it just looks that way. Ken made a video of the home made clutch grinder it is on youtube.

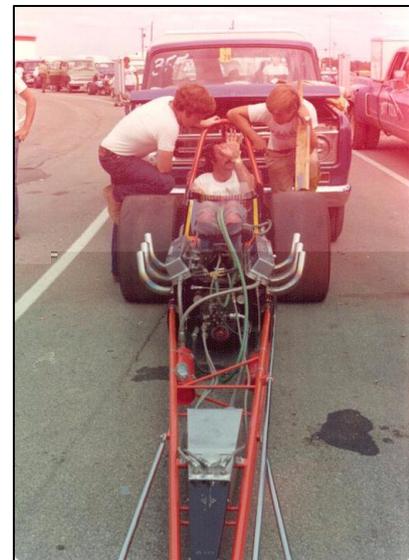
<http://www.youtube.com/watch?v=vBiDPKvMSzc> Or search youtube "Kens Clutch Grinder".

The only problem is that since we use the clutch grinder so much it has taken over the Bridgeport mill in Kens shop. Since the Bridgeport is a very handy second operation machine it looks like a clutch grinder redesign is necessary to free up the Bridgeport.

21 May – We had scheduled to meet at the work shop to take care of a few of the things we needed to check over before the Winternationals. Russ, Pete and Robbo all turn up to chase some of the details such as checking the new ring and pinion to make sure all is happy in the diff. Russ was to get some rubber mounts so the charge and release solenoids can be rubber mounted. The parts for a project Ken has been working on have arrived so he decides to stay at his shop and work on that. The project is an oil heater for the oil tank on the race car. A concern he has, especially in the colder months the engine oil when cold is heavy and thick and when warming the engine up we have to run the engine for longer than what should be necessary to get enough heat in the oil. Ken had an idea to make a drop in heater to put in the oil tank to warm the oil before starting. He has ordered a 240volt water heater element to provide the heat but didn't want to drop that directly in the oil for the fear of burning the oil where the element would sit in the oil, as when you overheat the oil you change the properties of the oil. Ken wanted to put the heating element into a liquid filled tube that would transfer the heat in a more controlled fashion. The heating element has a 1" threaded top and he has ordered a bit of 1 1/2" 7075 bar stock to make the reservoir for the heating element. Ken says a bit of research for a liquid that would serve as a transfer medium first led him to propylene glycol which has a boiling point of 188c. Not really content with that a bit more research discovered a common liquid with a boiling point of 270c and he has plenty of it in the trailer. This liquid is DOT 5 brake fluid. Boring out the 7075 was its own challenge, then cutting the 1 inch pipe thread made a nice little reservoir but the design on the fly method he decided to cut some fins in the cylinder to increase the surface area of the heat exchanger.

The idea is to drop this in the oil tank half an hour before the first start up in the morning. Ken says this harkens back to the days when he ran fuel. Back then all anyone had was a standard automobile block and Ken said he had a coupling on the engine of his push truck (remember they used to push the cars to a start) and he would take this coupling and put a hose on it and run it to a coupling on the race car engine and then from the race car engine back to the radiator of the push truck. Then slightly raise the idle of the truck to pump the hot water from the truck engine through the race car engine and then back again. After a few moments the race car engine would be hot making it much easier to light the 98% mixture of nitro which was a real challenge with a 1.9 amp Vertex mag.

Here in this photo you can see the green hoses running from the truck to the engine on the race car. This photo was taken at the 1974 US Nationals. Just a note, in the photo, that is Roly Leahy sitting in the car with David Hawk leaning on the tire with his knee and Ken holding the clutch hold down board.



To increase the surface area ribs were cut into the aluminium housing increasing the surface area by 300%. Once assembled DOT5 brake fluid (270c boiling point) is put in to transfer the heat from the element to the body of the heater. One little trick is how to minimize the internal pressure build up when the DOT5 brake fluid is heated. After the units were assembled they were tested

and it quickly became apparent that we will have to cycle them on for about half a minute and then off for several minutes as they ramp up heat quickly. Using a Omron timer and a contactor relay will allow us to push a button and turn the heater on for a pre-set time (adjustable on the Omron timer).

26 May Sunday – Today we are grinding up clutch disks, floaters and the spare flywheel, that were used in Sydney and getting ready for the Winternationals. Clean and tidy the trailer and check the DRS car over. When we race at Willowbank we use Ken's trailer that he uses for the Drag Race School as it has all the infrastructure stuff we need. Duncan and Cameron Turner have flown over from Perth to use the Drag Race School car at the Winternationals to further their points chase. It is the same car that they did the Drag Race School in a couple of years ago so they are familiar with the car. On the afternoon of the Thursday before the Winternationals Ken will take a couple of hours and refresh them on the car so once the race is underway the DRS car won't be a distraction from the Top Door car. Come race day they are on their own with the DRS car.

29 May Tuesday – Tonight Russ, Ken and Pete worked on the car. Even though it was ready to go to the starting line for first round of qualifying we thought we needed to have a look at the valves. They only have seven runs on them since new they seem to be fretting a little bit around the lash locks. More for Russ's piece of mind than anything else we decide to put in a new set of valves so the heads come off and then come apart while we are waiting for the new valves to arrive.



One of the handy features of our data logger is the accelerometer and it has stopped working. Ken sets up the computer to check the real time data and cannot get a response from the hardware so the accelerometer is removed and the cover removed to find a broken wire. The only soldering iron we have is a bit heavy duty so Russ decides to drop it off at his computer guy to get the wire soldered back on. It will be good to have it operational again as it is a handy bit of tuning data. Ken takes a pile of bits home to make or repair on the lathe as his shop.

7 June 2013 Friday. Since we don't have a trailer the car arrives on the back of a tilt tray from the Gold Coast shop. Russ has organized a bit of a spread for the United Tools guys so the barbeque arrives with all the stuff for a nice spread of food. There is nothing to do to the Corvette so Ken and Willowbank **WINTERNATIONALS 7-10 June 2013** Russ Pavey / Ken Lowe Race Report Page 3 of 6

Pete help Duncan and Cameron Turner on Kens Drag Race School Modified car. Cameron's first time back in the Drag Race School car since he did the DRS program a few years ago.

8 June 2013 Saturday First day of qualifying. We want to begin by saying how proud we are to carry our sponsors into battle. United Tools and Castrol have assisted our competent but financially challenged team and without them we just could not be here. Carrying the Castrol banner at this race seemed an additional challenge considering the other brand that is so predominantly displayed. That's ok because we know we have a great product and a great sponsor. Many thanks to both of you, **United Tools and Castrol.**



Even though it was overcast there was a good crowd on Friday



Getting ready for the warm up

The first pass holds the most promise, but yields the least performance. Our 6.25/225 was chalked up to tire shake at the top of low gear and a quick pedal on the throttle. At this point the track was a bit green for us. Although plenty of cars had been down the track previously they were all sportsman racers and don't put down what we need at the 350-400 foot mark. We reckon taking a little timing out where the shake was is the answer so we get the car ready for the next round. The push rod galling problem that we had previously has returned due to the extra spring pressure we are now running.. We had solved the problem by running extra oil into the rocker stands from a hole drilled on the end of the heads and putting oil in directly from the system just past the remote filter. Last week Russ had put in a new set of valves and the valve seats were pounded out a bit so he had upped the pressure on the seat about sixty pounds and

now the push rod problem is back.

Second qualifying pass gives us a 6.03/234 run which puts in the field... for now. The lid came loose from the oil tank and blew a bunch of oil back on the headers causing a bunch of smoke but once we got back to the pits we found engine damage as well. Number five piston had some holes in it that weren't supposed to be there and the cylinder sleeve was very unhappy as well. This means the engine comes out and the work begins, it is going to be a late night. We don't have any spares so Russ visits our competitors, many of them who run the same engine combination, to see if we can borrow some parts. We find enough parts to fix things up, Russ and Rick Steffens take the head back to his shop at Lockyer Engines to touch up the valve seat on number five. Pete has taken the clutches out to Ken's shop to grind up the clutch parts. The rest of us are in disassembly mode and then clean up all the parts. Once Russ and Ricky return the block and crank are clean and we sit the block back in the chassis getting ready for pistons and rods. It is getting late and we are all tired. We knock off at 2:30am to get some rest, we sure need it.



9 June 2013 Sunday Last day of qualifying.

We have been up all night (nearly) repairing the damage to the engine.

Repairing the engine is a lot of work but the challenge remains.. why?

Anytime something like this happens a complete examination of the chain of events takes place.

As you figure out possible reasons you try to assign certain values to those reasons and then consider if the weight of evidence supports the conclusion. The first consideration is that the only thing different between the combination on the car between Sydney is the valves. The new intakes are not dished (tuliped) like the original ones and the new exhaust valves are slightly larger causing them to sit a bit higher on the seat both of these situations will take up more space in the combustion chamber and thus raise the compression. But is that enough? Maybe. Our combination is usually pretty safe, mostly because we can't afford to do what we have just done.

At this point we still don't have the preverbal smoking gun, just a smoking piston.



Russ is pushing pistons in and Gary is doing the bottom end. Pete has finished the clutch and bell housing and putting the trans and driveshaft in. The original head gaskets were .049 and the new ones are .060 putting the compression back to where it was, or at least going that direction. While Pete and Robbo put the headers on, the heads and rocker gear are on, and Ken is hooking up all the fuel system hoses. With his mouth he blows through the hose from the pump to the barrel valve this hose has the filter in it. Ken finds a huge restriction through the filter. When the filter is removed from its canister, in the bottom of the crevices of the element you can see lint packed in there. A good hard blow with some air cleans up the filter and the difference is very evident as you blow through it with your mouth. The compression was part of the problem but we reckon this was the rest of the problem.

The smoking gun as it were. Still, after taking a piston out, you want to be safe so you richen up the fuel system ... just to be safe.

We warm the engine prior to the first qualifying session today and while warming the engine just before we get ready to shut the engine off Ken and Russ hear a little “pop” out of number seven header pipe. Ken puts his hand over the exhaust pipe to find there is NO heat from that cylinder. Quickly the engine is shut off. The natural consideration is that this is a dead plug, quickly removing



the plug and putting in a new one a quick refire finds that there is no change, still no heat out of number seven. Shut the engine off and get the mag cap off and check the ohms resistance on that plug wire finds it is exactly as it was when we made the new set. Quickly realizing the problem has to be mechanical we get the valve covers off to find ALL the intake rocker push rods and adjuster balls are killed. It is bad enough to lose a push rod on a run but how do you lose all of them while the car is still jacked up? Russ and Ken look at each other and apparently there is some kind of nonverbal communication between them as no words are spoken, but there is apparently there is some kind of dialogue taking place. Russ gets it first and says ... the rocker stands are on the wrong side. You see, previously when we solved push rod burning problem by putting oil in from the oil filter directly into the end of the cylinder

heads, and to keep the oil from going back down unused ports in the rocker stands we put 1/16” NPT plugs in the rocker stands. That meant the rocker stands had to be put on the cylinder head where they were supposed to go, so the oil holes would match up, but that didn’t happen, they were on the wrong side, meaning the oil was blocked off from entering the rocker assembly. Easy fix but we miss the qualifying session and we needed the data from that session.

Second session today is the final session for the event, currently our 6.03 earlier in qualifying had us in the field, but now it puts us in eleventh position, certainly not nearly good enough. We take our old girl to the start line for the final session. The field is currently an all five second field, the quickest in Australian history so we are hoping two things. First, that we aren’t going to hurt the engine and second, we haven’t gone too safe and the car is just too slow. It is a very fine line to walk. After Ken fires the engine, Russ does the tire warming and cleaning process keeping everything very tidy and in the groove, backing up nice and straight we get the car in position, staged and the tree flashes yellow and Russ is away. We watch the run, it is straight, clean and looks pretty damn quick. We hold our breath waiting for the time to come up on the board and it is a pretty good 5.974 at 243, and it is safe and clean. Our initial elation is because we stepped the car up, and didn’t hurt it, but that was dampened when we realize the bump is Fabetti at 5.970. We are on the outside looking in by only 0.004 of a second. We needed the lost qualifying run so put this number on the board in the earlier session, so we could take this run and step the car up a bit more, and it is in there, but we don’t get to see it today.

Yes our lollipops are in the dirt today. This was sure not our weekend.

10 June 2013 Monday. We are not qualified and it rains all day, the weather matches our mood. Everyone is packing up and going home.

Our next race is the Slamfest at Benariby near Gladstone on 29 June. We hope to see you all there.