

RUSS Pavey and KEN Lowe Race Report



SLAMFEST Benaraby 29 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, Jeff Stone all produced a terrific effort and are hugely responsible for any success that we have.

19 June – Wednesday

Russ puts the cam in and checks cam timing.

Ken fits the piston rings. Pete gets all the clutch hardware together for grinding tomorrow.

20 June Thursday

Pete brings the clutches out to Ken's place to grind everything up so we have a fresh clutch in the car and plenty of fresh disks and floaters to replace them with. While Pete is grinding clutches Ken is on the CNC making parts for customers.

21 June – Friday

Russ pushes all the pistons in to complete the short block.

Ken flows the fuel pump again just to make sure there are no surprises there. Whew, it is all good.

Pete discovers that our clutch release fork is bent, spread open and the release bearing is sounding a little notchy. We realize the additional rotational load that is placed on the release bearing by the lock up system we have in place. It seems like we had better have some spare release bearing in our spare parts department.

22 June – Saturday

Russ, Ken, Pete and Robbo are all the workshop today putting the finishing touches on the reassembly of the car. It is all the one thousand details we have to attend to. It is pretty much ready to start when we knock off at seven pm. Even most of the shop is cleaned up and tools put away.

Russ has to get the car loaded on Sunday to take it to put it on display and then back to the shed overnight and a trip to Vic Bray's on Monday to load in the trailer for a short trip to Gladstone to race at Benaraby next Saturday.

For those of you not familiar with the clutch release mechanism on almost all Top Alcohol, Top Door cars it is a shaft that passes through the bottom of the bellhousing with a fork bolted to middle of that shaft. When the shaft is rotated by the lever on the outside of the bellhousing, which is connected to the clutch pedal, this lever pushes the release bearing forward into the fingers on the clutch. It is a pretty simple and effective configuration used on almost all supercharged cars. Many are not aware that many of the parts are right out of a 1932 Ford. Even as a direct replacement for many of the parts. Ken even says that they are much like the clutch release mechanism on is 1948 Ferguson tractor. If it is a good idea, so why not use it until something better comes along.

The fingers in the clutch then pivot on their shafts bolted into the clutch cover (often called the "Hat") and then are connected to the clutch pressure plate (often called the "Ring") By pulling back on the ring it releases the pressure on the clutch disks providing the disengagement of the clutch. There are springs between the hat and the ring that provide some initial plate load on the clutch disks. These springs are adjustable and this load is called the "Static" or "Initial", this load is not RPM sensitive as it remains the same regardless of the engine RPM. The other plate load is caused by the force of the fingers pushing on the ring as the engine climbs in RPM. This finger load is called "Counterweight". This load is RPM sensitive as it increases as the RPM goes up. The distance between the hat and the ring determines the angle of the levers and thus the power of the counterweight. Often unless a radical change is made this dimension between the hat and the ring is usually a standard distance and often referred to as the Zero. This distance will change as the clutch disks wears and needs to be readjusted to maintain the original distance. This is done by loosening the pressure plate ("hat") stands and turning the threaded stands to allow the pressure plate to follow the hat as the clutch disks wear. The amount of wear on each run gives the tuner data to understand how effective the clutch is operating. Too much wear is not good, and not enough wear is not good either, and neither is fast.

Once you understand how the clutch works, the next level is understanding what makes a clutch a lock up clutch, and why that is a good thing.



As said earlier, the pressure plate release fingers pull the pressure plate ("hat") back to make the clutch release, with a race clutch they also have holes in them to put counterweights in them to increase the pressure plate load as the engine rpm increases. With a lock up type configuration there are some of the fingers that have a slotted pivot hole giving them the same release position but a different application position. If you control the rotation of the clutch release shaft and thus the position of the release

bearing fork you can control the position of the release bearing. In a normal situation when you take your foot of the clutch pedal the release bearing moves all the way to the rear allowing full travel to all the clutch release fingers. With a lock up design the position of the release bearing is limited thus

only allowing some of the fingers to activate. These are called the primary fingers. At whatever point the tuner wants to apply additional clutch pressure then is when the secondary fingers are applied by fully releasing the clutch shaft travel and allowing the release bearing to move all the way clear of all the clutch fingers.

What benefit does this give the tuner? There are several things a play here. Even on a fully prepared very sticky track these cars can easily smoke the tires anytime, if the tune up is too aggressive. In this game if you smoke the tires, you lose, right now, game over, or worse if you smoke the tires past the 330 it is very easy to put the car into the wall. A good tuner runs as much clutch as necessary to get the car to move as quick as possible without smoking the tires. Second is engine rpm control, if you grab the clutch at the wrong time it will pull the engine down, causing a loss of rpm, which is blower rpm, which is blower boost. Third to get the car to move hard, not smoke the tires (or shake), not pull the engine down once you get the car in high gear now you don't have enough clutch load as the engine will run away from the drive shaft rpm. It needs to be pointed out that a clutch in an Alcohol car and a Nitro car is similar looking, but different. A Nitro car will use a clutch that looks very similar to an Alcohol clutch but operates differently. The easiest way to describe a Nitro clutch is like it is a very big Go Kart clutch as it is all RPM activated. A clutch in an Alcohol car is frequently



referred to as a “Pedal Clutch” since like most clutches depressing the pedal will cause the clutch to release.

Balance all this with selecting the right gear ratios in the transmission and diff to suit track conditions and the right fuel system to go with your gear ratios, clutch settings and the weather conditions and you have a very interesting science project. This is a science project that produces immediate results

for the entire world to see. It is very easy to go from zero to hero and right back again. It has been said you are only as good as your last run, in fact you're only as good as your next run. One big number does not win races, or championships.

Why do we work hard, spend all of our money to do this, and reap little financial reward for our efforts? Drag Racers (capitol letters) are a driven lot. If we did it for money no one would be doing it, we do it because for our thirst for knowledge. It all begins with, "I wonder what if" and it all ends at the finish line.

28 June – The relay to the race track begins, Ken is up very early and drives to Pete's place where they get in Pete's car and drive to Lytton where they meet Robbo and get in Robbo's car for the trip north to Benaraby.

The same applies to Russell and Caroline who drive to the airport to pick up Jeff and Mandy and they drive up together. A short six hours later Robbo, Pete and Ken arrive at the track to a warm welcome from all but the car is in Vic's trailer and they aren't here yet. They arrive about 6pm and all we do is to get the tent up to hold our pit space and leave the car in the trailer overnight. We drive into Gladstone to get our rooms at the local motel. Dinner, shower and good night's sleep all go along way tonight.

29 June – Race day. We all arrive at the track and get the car out of the trailer, get it up on the jacks and we all start to work. Spin the engine up to get oil pressure up and observe the oil flow to the rockers with the larger oil feed lines. Great oil flow to the rockers now should fix the pushrod burning problem (and it does). Ken and Russ spin the engine over with the spark plugs removed to check timing and it seems good so plugs go in and we start the engine to final check the timing. We are happy with it so we continue with the warming of the engine. That done final setting on the rockers is completed, the air gap checked on the clutch and we are ready for the test round. Ken and Russ agree on the "package" and take it to the start line. The result was the car blew the tires off on the step of the throttle. Whoa!! That was more than the track could hold. For the qualifying round we drop the start line 500 rpm and the car goes straight down the track for a 4.12 which puts us in 5th position. For first round of eliminations we race Ben Bray and since he qualified



just in front of us at 4th, and we didn't have lane choice and got put in the right lane and again blew the tires off on the step of the throttle. Russ tried to regain control with a quick pedal but it was for naught as soon as he stepped on the throttle again it again blew the tires off and the car made a hard turn to the right towards the wall and only a hell of a lot of steering wheel action on Russ's part kept the car off

the wall and all the paint (including headers and wheels) intact. Our day was done but more importantly the car was intact. We don't think the car liked the shake very much, as now the diff is making some crunchy noises, so it will need some attention.

Apologies for the lack of photos in this report but that is what happens when you are busy. The race was an outstanding success for the race track the gate numbers that were mentioned were that there was over 6500 people through the gate and since every stand and mound was completely full and the pits were full, all the parking lots were full all the way back to the road that all kind of speaks for itself. They had wood oven baked pizzas there that were very popular and when Ken ordered his pizza he asked the girl how many they had sold today she said .. "over a thousand", and it was a 45 minute wait for your pizza as well, but they were quite nice though and well worth the wait.

Benny was in the final against Murray O'Conner and it was always going to be very dicey as the dew was setting in and it was going to be a contest to see who could get down the track. Ben nailed it with a 4.30 run while Murray blew the tires off on the step. (sound familiar?)

Since Ben was in the final, the Brays were going to be loading up late and since our car goes in their trailer we had to wait until they started to load before we could put our stuff away. It was just after midnight when we got to the motel. A shower and bed looked pretty good right about now.

30 June - We were up and on the road home by 9am and did the reverse relay home. We race next in two weeks in Mackay and hope to see some of you there. Please come by the car and say hello. Remember Mackay 13 July SLAMFEST, it is going to be great! Vic and Ben Bray, Gary Phillips, Peter Kaporis, Zappia, Murray O'Conner, and naturally we will be there as well.

1 July – Russ and Ken chat about how to best get the car ready for Mackay SLAMFEST. We decide to take the tools and parts up to Vic's place (where the car is) and do the service there. We agree tomorrow we will meet there and get the diff out and find the source of the crunchy noise and do the engine maintenance as well.

