

V6 primer thread

Posted by Quandry - 2010/01/21 08:56

I came across this thread over on Imoc and even though it's out of date a year or two, has some very good information about V6 conversions. I approached Paul Woods (the author and undisputed king of V6 conversions) and he was happy to have it posted up here.

So for those that have not yet seen/heard about V6 MR2's, grab a coffee and check it out:
Quandry

Paul Woods from Woodsport:

I get frequently asked questions about the conversion at Woodsport so i thought I would take time to detail it here....

So why go V6?

A question that's asked a lot and a good one too,the 3vz-fe is toyotas best kept engine secret.They tucked it away in the big cruiser of the range the toyota camry,if only they had the foresight to use this unit in the mk2 like we are doing today! It really doesn't serve its full purpose in the heavyweight camry and is further strangled to death on a horrible auto gearbox.Having said that it still hauls the camry to 60 fairly quickly.But its in the mk2 Mr2 where it comes into its own.The V6 in stock form,simply transplanted from camry to mr2 with no mods,will give you stock mr2 turbo performance but with big differences. (this performance claim is proven)

The differences being drive ability,bottom end torque,silky smooth power delivery,an engine that purrs at idle and then roars like thunder on full throttle like only a v6 can.Quite simply the noise these things make is to die for but by far the best advantage is the throttle response....no lag with these fellas! The torque curve from 2000rpm to 2500rpm is practically vertical...

<http://mr2.ie/mr2/v6/3vzdynamap.jpg>

Rev3 3s-ge v 3vz-fe performance and weight comparisons

<http://mr2.ie/mr2/v6/3s-gevv6data.jpg>

What are they like to drive?

The V6 in a mk2 totally transforms its behavior on the road.Mr2 engines in general need plenty of revs to get them off the mark,this leads to clutches burning out quicker than in other cars,blame yamaha's engine design for that one! With the V6 you can drop the clutch in 2nd gear and still pull away with minimal revs.On the road its very civilized,will happily cruise all day without you even knowing its got an engine in there at all (Mr2 owners that have test driven our V6 demo car have commented they couldn't hear the engine running at junctions).But when opened up it will pick up from 4th gear at 20mph and launch hard as the revs rise,no need to change down to get power out of this engine,it throws you back hard and keeps you there.

On top of that there's total reliability,just look at any mr2 forum's mechanical section,littered with engine problems and in particular turbo engine problems.I love the 3s-gte but it does have its reliability issues,there's exceptions to every rule of course but they do seem to have problem areas.O2 sensors,AFM's, underboosting , overboosting , turbos blowing up,knock sensors failing the list goes

on.....none of that nonsense with the 3vz-fe v6.What you get is a bulletproof (that word's used a lot for some engines but this one really is) engine that will go on for 300k no problem,no issues at all with cranks/rods/pistons or rings...indeed we have seen a 200k+ engine with perfect bores and still with the factory honing marks!

If there's a weak point with the V6 its head gaskets, they are known to fail from 100k+ but we replace these as routine on every conversion so its not an issue.

So that's a little insight into why people go v6,it transforms your mk2 into a silky smooth cruiser and into a snarling beast when opened up.Turbo performance with NA response and reliability.

What does the V6 sound like compared to a 4 cylinder engine?

This is a Woodsport conversion running with a mk2 Magnex system,quite simply no other mr2 engine sounds as good as a v6...

http://www.youtube.com/watch?v=A_PkswoXMx0

and another woodsport V6SC....

<http://s115.photobucket.com/albums/n293/Jinja12/?action=view¤t=jinjav6vid.flv>

What levels of performance can i expect?

Theres been a lot of debate about this recently so i thought it best to clear it up.Simply put a stock v6 will perform to stock rev1/2 turbo levels,i believe the stock turbo does the 1/4 mile in 14.6 secs...here is a video of one of our TB members returning a 14.2 sec 1/4 mile.

<http://www.youtube.com/watch?v=8aIZtSoKsqq>

Can my car be converted?

Yes,any mk2 mr2 either NA or Turbo, 3s-fe,3s-ge or 3s-gte can be converted,it will simply use your existing gearbox and driveshafts.Both NA and Turbo gearboxes will handle the power of the V6 easily.With each conversion a new clutch is also fitted.We are currently looking into wether the V6 can be fitted onto the mk2 auto gearbox too although this is a limited market and unlikely to be popular.

Can i keep my air con system with the v6 swap?

Yes,the camry v6 has an air con pump fitted as standard,but it will mean custom pipes being made to connect it up and will need recharging so it will add £190 to the cost of the conversion if you want to keep it (£115 for re-gassing and £75 labour/pipe modification).Most v6 owners are opting to ditch the air con as it costs a few bhp,but retaining the air con is not a problem.

If i have a turbo or NA mk2 exhaust fitted with the conversion will any future exhaust still fit?

Yes,we modify the v6 downpipes so that whatever silencer system is first fitted it has the same attachment point....meaning if we do a v6 conversion and use an NA rear silencer then any NA rear silencer will bolt straight up afterwards from then on.

Likewise with a turbo exhaust,if i fit a turbo mongoose for example,that could be removed in future and ANY other turbo rear silencer replaced,its part of the swap that i insist on doing so that v6'ers arent

constantly needing custom made exhausts in the future.

If an NA exhaust was first used and you wanted to convert to a turbo one the v6 downpipe would only require minor modifying.

Does anything need cutting? firewalls etc?

No,the V6 will fit in the mk2 bay without modifying any firewalls or chassis rails,apart from the drivers side engine mount on the engine that needs fabricating nothing is altered on the car itself.In fact once fitted they look like they belong in a mk2 engine bay...this is the woodsport demo cars bay with none of the cosmetics a customers car would receive.

http://mr2.ie/mr2/v6/IMAGE_00190.jpg

And customers bays....

<http://mr2.ie/mr2/v6/vicsfinished3.jpg>

http://mr2.ie/mr2/v6/439133159_d6283bff6a_o.jpg

<http://mr2.ie/mr2/v6/v6engine.jpg>

And a few 355 bodykitted cars...in my opinion the perfect engine for the ferrari replicas.

<http://mr2.ie/mr2/v6/P8070003.jpg>

<http://mr2.ie/mr2/v6/marksmoneyshot-1.jpg>

<http://mr2.ie/mr2/v6/fimmosmoneyshot.jpg>

<http://mr2.ie/mr2/v6/stevesmoneyshot.jpg>

<http://mr2.ie/mr2/v6/mattsmoneyshot.jpg>

<http://mr2.ie/mr2/v6/burnersenginecompleted2.jpg>

<http://mr2.ie/mr2/v6/pgfinishedbay.jpg>

<http://mr2.ie/mr2/v6/cheechsmoneyshot.jpg>

<http://mr2.ie/mr2/v6/wardsfinal.jpg>

<http://mr2.ie/mr2/v6/richiesmoneyshot.jpg>

<http://mr2.ie/mr2/v6/SDC10102.jpg>

<http://mr2.ie/mr2/v6/V61.jpg>

And below three recently converted mr2's that feature the TRD supercharger,this is the first time anyone in the world has made this charger work on the 3vz-fe as its designed for the 1mz-fe.

Theres about 10-15 more man hours involved in getting the TRD charger to work on this engine and as a result will require around £300 more in labour to go down this route.Power will be in the 280bhp region at 4psi.

<http://mr2.ie/mr2/v6/johnnysbayfinal.jpg>

<http://mr2.ie/mr2/v6/leesfinishedwithcover1.jpg>

<http://mr2.ie/mr2/v6/andysfinishedbay.jpg>

You can also follow the live conversions on our new webcam...

paste this into your browser,no http or www....

tv.woodsport.org

USERNAME:woodsport

PASSWORD:tv

Can the cambelt be changed easily with a v6 in an mr2?

Yes,there is more room to change the belt than when the v6 was in the camry it came from.There is about the same space to change the timing belt as a normal 3s-ge engined car.

What other supporting mods will i need ?

None really....but upgrading the brakes to late spec is always better with an engine upgrade.Also running wider tyres on the rear might be wise! I use 225's but 235 or 245 would be ideal.

Will my gauges and warning lights work as before?

Yes,all of your gauges and lights will work,even the check engine light.The tacho signal is getting a 6 pulse signal instead of 4 so it reads higher than normal but we swap the camry tacho circuit board into the mk2 clocks to rectify this.On turbo models having the conversion done your turbo boost gauge will no longer work for obvious reasons.

What level of finish can i expect?

Each engine is fully degreased and jetwash blasted clean,then repainted and detailed to whatever colour scheme you like.Its a nut and bolt detailing job and each one is detailed to a high show standard.....heres the typical level of finish on a v6 prior to install.

<http://mr2.ie/mr2/v6/vicsplenumfitted3.jpg>

<http://mr2.ie/mr2/v6/vicsfinished1.jpg>

And another finished bay...

<http://mr2.ie/mr2/v6/bobsfinal.jpg>

How will it affect my insurance ?

Not as much as you'd think,we have received quotes that are only £50-£100 more than a 3s-ge NA mk2 model and actually cheaper than insuring a tubby as the engine isnt rated that high (200bhp/200lbs/ft).

What is the cost of conversion ?

Cost wise we offer a few packages, I'll start with the most expensive and work down. For your conversion i need to buy a complete camry and then overhaul its engine with fresh head gaskets/timing belt etc.

All of the packages come with the following:

V6 engine degreased,engine detailed,both head gaskets replaced (wether they are gone or not),cam belt changed,new oils,filters,antifreeze etc.

A new clutch kit,either NA or turbo depending on what model mk2 you have,supplied and fitted,if you are happy with your current clutch then the job is cheaper by the cost of a clutch,but of course its always better to fit new on a job like this.

A custom flywheel supplied and fitted

A bespoke drivers engine mount supplied

Mk2 engine bay cleaned and if need be repainted in stock colour or colour of your choice

Induction kit and AFM adapter ,or if you want to use your current one?

Exhaust downpipes modified to fit your current exhaust system or any other exhaust system you may wish to have installed.

Mr2 tachometer is modified and recalibrated to read the v6 perfectly.

New gearbox oil seals also replaced as part of the conversion.

Now the pricing options:

For a turnkey V6 conversion, thats you dropping off your mk2 and picking it up a few weeks later as a mk2 v6,which involves me sourcing and buying a camry,stripping its engine out,stripping your engine and gearbox out,doing all of the work listed above and carrying out the conversion is £2750,add £190 to any of these packages if you want to retain the aircon.

Next cheapest option is £2250,for that you get all of the above but you would have to source and buy the camry donor car yourself and deliver both it and your mk2 to woodsport.

How long does a conversion take?

Typically 2-3 weeks from dropping it off to driving it away as a v6....this time can vary depending on the availability of donor cars and my workload but once all parts are sourced we have a 2 week turnaround.The Woodsport v6 demo car was built in 4 days but has none of the detailing work done to the engine bay or engine that a customers car would recieve.

What happens to my old 5s-fe,3s-ge or 3s-gte engine?

All customers engines are removed and dry stored on a wooden pallet as complete as possible.This is then shipped wherever it needs to go when the owner finds a buyer privately or ebay'd etc.I can handle all of the shipping details so its as hassle free as possible.Customers can also take their old engines away upon completion of the conversion.

Update: We are now cleaning and colour coding mr2 subframes and suspension arms as part of the conversion at no extra cost!

<http://mr2.ie/mr2/v6/huubspaintedsubframe.jpg>

There are currently 11 mk2 V6's in the UK (10/02/07) and rising.

Please feel free to ring me 07951304712, even out of work hours, to discuss swap options,or email

paul@woodsport.org

thanks paul woods /owner Woodsport.

<http://mr2.ie/mr2/v6/woodsportlogo.jpg>

Owners testimony's

Paul, I thought the Sierra 4x4 3ltr V6 12v pulled very well, grunt & grip but doesn't like to rev too much, just drive it on the torque, plant it, get the power down very early & safely out off a corner, a grown-up car. I've driven a few 24v 3ltrs and have been generally disappointed with their low speed pickup, having to rev them hard to get any performance, which to me seemed pointless having a large capacity engine, but Paul I think you have provided utopia, a 24v 3ltr which pulls like a train ala 12v but revs like a very good 2ltr 16v. That torque curve looks sooo good on a dyno chart, area under the curve is what matters and all that but difficult to believe until experienced, superb throttle response and yet revs so freely, the best of both worlds, a rare combination, modern complicated, expensive vvti's try to achieve the same.

I can understand your frustration in trying to persuade people with 3sge's and 3sgte's who naturally think it's an exaggeration, how can you accurately describe THAT sound, how can a sports exhaust be so quiet at tick-over and at constant throttle on the motorway, without a trace of resonance and coarseness and yet produce such fantastic MUSIC on acceleration, it makes the car feel so refined, expensive yet so very exciting, M3 drivers might get similar but soooo much more expensive. Apparently this engine in the nineties was voted one of the best 10 in the world and yet people without experience of them seem to under rate them.

When I knew that the heads were designed by Yamaha I though revvy but gutless, but this is the 'F' 'economy' version (i.e plenty of scope for relatively cheap productive conventional tuning 'what's that nowadays' 'it means 20 real bhp simple exhaust system, 25 real bhp straight forward head port & polish, simple adjustment of AFM tuning, I've done similar with the relatively old tech Sierra and I know it works well) rather than the 'G' performance design (ala 3sge high specific output but not much low end torque and not much power left to extract, spend a lot of money but Toyota have done most of it already, how frustrating and uninteresting, no productive big valves, gas flow & polish here).

How nice and enjoyable is it to be able to have the benefits of modern reliable efficient electronic ignition & fuel injection systems etc and yet this generation of engines still allows the ability to interrogate/diagnose/adjust/experiment/improve the engine using relatively simple inexpensive equipment. People get too wrapped up in all alloy blocks, theoretical benefits, hi-tech for the sake of it (but will not allow you simple access anymore, ever again), thinking that must be better but if ever the 'proofs in the eating' then this is Paul, the classic and underrated example, Its must be difficult to sell the genuine qualities of the V6 against the glamour, glitz, sound and after market support for the Turbos although the V6 is getting the attention of more people, even long term turbo owners judging by the comments on the club sites, buy up all the Camrys you've got the space for Paul while the prices are low!

I think you are absolutely right in your approach of creating a demonstrator car which when tried would convince most people at an affordable price. Its getting them up there, speaking for myself it was 3 x 360 miles worth it. Your belief, and ability to do it via your own business, an enthusiast who can also deliver the goods, I join the happy band who sing your deserved praises, it took me a fair bit of commitment and heart searching (about 5 mins after the demo drive) to put '3000 into my wifes (official owner) 16 year old car which will be changed forever but glad I did.

I used 6 gallons over 180 miles at a steady 75 (followed your instructions) and my wife was following in the Sierra which used 7.5 gallons which I would have been fairly happy to match

I kept myself honest and my insurance company quoted me '120 extra, 'V6 MR2-engine replacement! there must be other enthusiasts as underwriters.

I'll keep you posted of progress Paul for reference to future conversions, I'm feeling quite proud of

being the first MR2V6 conversion in the world with air con and the UK 6xV6, doesn't sound a very exciting distinction but what an engine!.

Thanks again Paul

Before the swap, the 2.0 3S-GE was way too tame and underpowered for the look and feel of the car. (Okay I am a biker and most cars feel that way for me, but I know my "fast" for cars too)

After the swap I was VERY impressed with what I now had. With the standard backbox I have two immensely different experiences to behold when driving my 2.

First comes LIMO MODE, where you can drive around almost all day using just 3rd and 5th. The engine note and noise are almost unnoticeable and if you were a pedestrian, you probably wouldn't even notice the difference from any other MR2. The power to be had down low is phenomenal. I can pull away in third like it was 1st. It will pull from 20mph in 5th (if you tickle the throttle) I doubt there is a hill large enough in the world, that it would not amaze you in climbing speed). Onto roundabout in 5th ? ...no problem. Overall smooth, quiet, lazy, forgiving, power when you need it not a problem. Bliss.

The you have FERRARI MODE, (okay "mini" Ferrari Mode), but wahey...when you nail it, the noises that come from a few inches behind you head...wow. I mean it was good preswap, but now it is indescribable. The induction roar is just right, the low down burbles, blurps, borps and THAAABorps plus the classical "V Engine" noises that go on back there, are truly awesome, they echo around the cabin perfectly in millio-phonoc pana-sound. The pull is pretty amazing for an NA car (untweaked engine too - there have been 3VZs churning out 375BHP in NA form!) it reaches 60 in about 6.5 (8.0 before) and I estimate 0-100 in about 10-11, its not long that for sure. And it just keeps coming...and the fifth gear roll-on is a superb experience (if you can find a road long enough to enjoy it to the max on)

I say again...these engines were DESIGNED for the mk2 !!! ,Jon.

Hi Paul.

I recently ordered some spare parts from the local Toyota dealership in Northampton. I told the chap who served me about the conversion you had done & how pleased I am with it.

On my return to collect the parts, a few days later, I was served by the same chap. It seems that he had told the service manager about the conversion & he was sceptical about it. I was asked to take the car to the service section. When I arrived the service manager came out & looked at the engine. He also summoned all the workforce to see this unusual beast.

They were all over & under the car & the unanimous opinion was that this is an extremely high quality conversion & they had to admit that they did not really believe their spares chap & thought it was a wind up.

Once again you have astounded Toyota & will be glad to hear that their production stopped for at least half an hour.

Many thanks paul.

My wife and I caught the 12.45 flight from Cardiff to Newcastle yesterday to pick the car up from

Woodport. A very uneventful flight, and trainride to Durham. We then got a taxi to the business park where the Woodport premises is located where my car sat, waiting to go.

Paul and Ollie gave us a hearty greeting and I was shown to the car to see the engine and other work that had been done to it.

Now I've been in a fairly privileged position in the past, to more or less have carte blanche with a bank account to go as wild as I wanted, and as many of you have previously seen, the effect was pretty good, but.... I can honestly say, regardless of cost, I have never seen such a complete and stunning piece of work, as the job that Paul, Anth and Ollie have done to my car. The level of workmanship that has gone into this conversion is beyond belief. When Paul lifted the engine cover for the first time, it truly took my breath away.

We talked for a few minutes, and Paul went over what I should be doing over the next day or so in terms of what to look for, and how to treat the newly installed engine. Finally, I could hold it in no longer. "I have to hear it Paul. Do you mind if I start it up...?"

With a turn of the key, the motor fired up. The tailpipes burbling merrily. Paul reached into the bay after the engine had warmed a little and twisted the throttle linkage...

...Oh my god.

I've heard some amazing engine sounds in my time, that have come from some stunning machinery, but I think I'd be hard pushed to think of one that sounds anywhere near as good as this. I simply can't have asked for anything better.

Here's what you get for your money gentlemen...

<http://mr2.ie/mr2/v6/V61.jpg>

...I think you'll agree, it's worth every penny.

And so the time came for us to wish the lads farewell, and embark on the long drive home. The journey back to our village of Edwardsville in South Wales is more or less 350 miles, give or take a yard or two, and believe it or not, I was looking forward to every single mile.

We pulled out of the yard and headed for the petrol station to fill up. I checked my wallet, and found that I only had £40 on me, so I thought I'd put £30 worth in and see how it went. The other tenner went on snacks for the journey.

The gauge read a couple of marks past half way, and going on what I'd read, and been told about the V6's economy, my wife and I were expecting to pull in to another service station around a hundred miles or so down the road. Not so... we were still on a quarter of a tank after 170 miles!!! Believe it or not, we did the whole journey using just under 3/4 of a tank of fuel! I've still got over quarter of a tank to use for work! I'm utterly stunned. We worked it out to have returned somewhere around 35 mpg for the whole trip! My wife's 1.4 Clio would have used more fuel!

The other obvious plus point of this conversion, is the different level of performance the V6 gives to the MR2, and what a huge difference the motor makes to the driving experience. To say it transforms the car would be understatement of the millenium. Where previously, the power had to be wound on during the way into a roundabout to spool the turbo, the six can be feathered on the way in, and it's responsiveness and huge torque curve spits the car out the other side with a fabulous wag of the car's tail, as the rear

tyres light up under the strain. It makes every corner a delight. ...and as for gears... who needs them! Overtaking is a complete breeze. Just plant your foot, let the sound of that wonderful V6 overture wash over you, and sail past as many cars as you like, all in the blink of an eye.

In all my years of MR2 ownership, I have never enjoyed a driving my car so much. Huge thanks go to Paul, Anth and Ollie for all your hard work. You've made an old man, very young.

EarL.

Just a little feedback for y'all.

I've been driving the car now for best part of a fortnight, and can honestly say, the thoughts of tubbies are now long gone. This is definately how Toyota should have built the car in the first place!

The instant power, the sound (and it would seem the economy too) are all hugely different to that of the turbo. Different, but in a good way.

I used to enjoy a quick blast in my old car, but I just simply don't want to get out of this one! It's totally addictive. A couple of mates have been completely converted by having been a passenger in it too. Paul, expect a couple more enquiries very soon.

I pulled into a petrol station the other day behind my friends TVR (he needed fuel, not me), and a couple of guys in a stunning Silver MkI Golf GTI came over for a better look. The driver of the Golf commented that my MR2 actually sounded better than the Trevor! When I showed them the engine, they were gobsmacked! At first they thought the small chrome V6 badges I have on the car now were fake, but not after I'd popped the lid.

Suffice to say, I'm hugely happy with how the car has turned out. And have the utmost respect for the guys at Woodsport for turning out such a wonderful creation

Hi all, I got my car back from Woodsport today so I thought I would do as everyone else has and post up my thoughts on what I think the v6 is like. I seriously attempted to write this earlier but I so wanted to get back in the car I gave up half way through!

So here goes;

From Woodsport to my house is around 170 miles, mostly the A1 and then M1, m60, bla bla bla until the M53 so normally a bit of a ball acher of a drive. Not so today though!

First off though Ive got to say a big thank you to Woodsport and what a bloody good job Paul and everyone at Woodsport did on my engine, it looks brand spanking new and sounds awesome. The extra little things they do to make the conversion perfect go far beyond any garage Ive ever had dealings with before. While waiting for my conversion to complete I, probably like everyone else, have been checking out the various youtube vids and drooling at the engine notes, I can confirm that it does indeed sound much, much, much better in the flesh!

So then I head to the nearest petrol station and already heads are turning. Brim the tank and head down the A1 and immediatly it hits me how torquey these cars are. Im in 5th at around 30mph on the slip road, tap the accelerator and before I know it Im doing 80, oops, I was meant to keep it at 70 doh! I slow down and already Im grinning and loving it!

The v6 purrs along effortlessly at the speed limit, it overtakes with ease and handles great, absolutley

flawless. Im keeping one eye on the dash and one on the road. After doing 100 miles Ive only used 5 notches of fuel, pretty good, the temp guage is where its always been just below half way so Im happy.

I get on the M53 and Im nearly home so I decide to give it a push, nothing extreme though. Tapped the loud pedal about 1/3rd down and I rocket past my mates car and immediatly have to slow down as Ive just seen the speed Im going. From 70 up to illegal speeds it gets there much quicker than my old NA.

On the B roads Ive got it in 5th most of the way. I cant hear the engine which is good, but love it when I change to 3rd and hear the low down rumble, I could listed to that all day and I know Im not alone there !

Overall I am really, really pleased with the v6, its ticked all the right boxes and I bloody love it. I highly recommend Woodsport to anyone who is thinking of going down the v6 route. Many have said this before but this really is the engine toyota should have put in the mr2.

Finally and this really suprised me, I only used 1/2 a tank of petrol for the entire drive (170 miles approx). That was steady motorway driving between 60-80 mph and a bit of heavy footedness towards the end. When I drove my NA to Woodsport it used just over 3/4 tank, I was going a tad faster but im pleasantly suprised to know that the v6 wont use an awful lot more petrol than the old engine, oh yes and its around an extra £85 per year for me to insure it.

Im off to lemans on Friday for the weekend, that will be the real road test. Ill post up some pics and a vid very soon. Cheers for now!

One very, very happy Dan signing off!

10/10 Thanks Woodsport!!

A little about Woodsport

Woodsport was founded back in 2001,its birth came from my own personal love and ownership of mr2's and being a time served mechanic naturally i learned everything about it.Slowly i found myself working on friends and other peoples club cars,from there it grew into a full time job.In the early days we specialised in mk1 mr2 restoration,engine changes and day to day servicing.We have always tried to push the boundaries in terms of cheap available upgrades for mr2 owners,indeed we invented the celica brake upgrades for mk1's that are commonplace now,we also discovered the corolla wheel arch mod,the escort sill repair method and various other mr2 money saving free upgrades including a manual choke conversion kit to rid mk1 owners of horrible waxstat issues.

In 2002 Woodsport became the first mr2 garage in europe to install a 3s-gte into a mk1 mr2,shortly after that we became the first to do the same with the V6 engine,in fact we brought the V6 engine conversion to the UK and overcame all of the niggles and problems associated with that conversion,a full year of research was carried out before the first build... today every V6 powered mr2 and 3s-gte powered mk1 in the UK is based and built on the knowledge and research carried out all those years ago,needless to say we have always published this information for the DIY homebuilder to complete these builds themselves,thats the Woodsport ethos... mr2 enthusiasts first and foremost,even if it helps the competition :D .

In 2004 we started offering the mk1 turbo conversion to the public and have since built many examples,and in 2005 we started offering the same service for mk2 v6 customers.Since then we have built over 20 cars in NA,supercharged and turbocharged form,indeed the TRD supercharged variants are

only possible using the Woodsport idle speed controller adaptor body designed by us. We have also undertaken mk2 NA to turbo transplants inside one day and we pride ourselves in being able to carry out mk1 timing belt changes in 40 minutes while the customer waits..... toyota take 2.5hours!

This month Woodsport became the first in the world to install a 3vz-fe V6 into a mk3 roadster.... again pushing the boundaries in mr2 engine transplants
<http://mr2.ie/mr2/v6/nigbracefitted.jpg>

Woodsport also has a fully functioning bodyshop and spraying facilities and in the summer of this year we needed to expand and moved into our new modern fully equipped workshop in TurSDale,durham....

<http://mr2.ie/mr2/v6/wslifts.jpg>

We have 24hr security for customers cars and an internal webcam for customers to follow the builds as they happen live. At the moment we have two staff, myself (Paul Woods) and my head mechanic Anthony, between us we have over forty years experience in the motor trade and i have just passed the 10 year mark working solely on mr2's.

So if you havent been a regular on mr2 forums for the last ten years thats a little insight into who we are and what we do.

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Re:V6 primer thread

Posted by Quandry - 2010/01/21 09:11

As an update to this, there have been numerous V6 conversions in the UK and USA over the past couple of years. They're really getting to a point of perfecting them now. This pic is one of my favourites:

<http://mr2.ie/mr2/v6/trd%20bar%203mz.JPG>

There is also a 'Turbo V6' brigade in full swing that are making amazing horsepower and low down grunt.

Unfortunately in Ireland the tax and insurance on anything 3 litre is astronomical, if this were relaxed then I think a lot more people could consider this option. Still it's an interesting part of MR2 culture and the build threads can be mesmorising with the detail that people go in to.

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Re:V6 primer thread

Posted by slipsliderg - 2010/01/21 09:52

+1 on the karma.

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Re:V6 primer thread

Posted by Quandry - 2010/01/21 10:02

I can only imagine what that VVti V6 is like, it must be amazing!

Feel free to add up any favourite pics you have too Ray...

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Re:V6 primer thread

Posted by Quandry - 2010/01/21 10:37

Here's some v6 MR2 videos from Youtube also:

<http://www.youtube.com/watch?v=IVSV1EVZF5k&feature=related>

<http://www.youtube.com/watch?v=UwrBJ5PrgWw&feature=related>

<http://www.youtube.com/watch?v=eLE7TZWIADM&feature=related>

<http://www.youtube.com/watch?v=pAVYM7Fwx5Y&feature=related>

<http://www.youtube.com/watch?v=Z-CBAc46Y48&feature=related>

<http://www.youtube.com/watch?v=l4aPmei-ao8&feature=related>

http://www.youtube.com/watch?v=BenhsXt1s_Q&feature=related

<http://www.youtube.com/watch?v=kirvkbXXdvU&feature=related>

<http://www.youtube.com/watch?v=Z-aQfK-wtkc&feature=related>

http://www.youtube.com/watch?v=_9_JXGcBjwU&feature=related

<http://www.youtube.com/watch?v=xDlnI1ME42g&feature=related>

<http://www.youtube.com/watch?v=38EiHyuWZok&feature=related>

http://www.youtube.com/watch?v=7VnUYdTUWrg&feature=player_embedded

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Re:V6 primer thread

Posted by Quandry - 2010/01/22 08:33

The funny thing is, I never heard a V6 MR2 until I just saw the video up above in Paul's post. So now I need a lotto win BADLY. As I would like to have a V6 MR2 but it has to be aswell as my current 2 (how's that for greedy? :)

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Re:V6 primer thread

Posted by GWrinkle - 2010/02/12 18:52

Well if you make the Fermanagh run you will get to meet my V6 :)

Here is a clip of it on a rolling road a couple of years ago

<http://www.youtube.com/watch?v=jlPCyG9SwQU>

Re:V6 primer thread

Posted by Quandry - 2010/02/12 20:23

Sounds awesome!!! what kind of power did it put down?

Karma Click for the nice vid ;)

Re:V6 primer thread

Posted by GWrinkle - 2010/02/12 21:31

Cheers for the Karma click B) It only made 170bhp and 180 ft/lb . There was a problem with the ACIS valve which basically wasn't opening at 4.5k due to an earthing problem. Thats now fixed and the tubby XS power backbox (horrendously loud as you heard) replaced with a blueflame N/A. I would expect it to be in and around 190- 200bhp now. Max torque is at 2k :woohoo:

The engine is standard, no headwork but has a Y-pipe mod on the exhaust and a Rev 1 N/A box, and has been totally reliable in the 20 months Ive had her :) Keeps up with standard tubbies no problem, except she lacks top end speed due to the short N/A ratios and because she revs out at 6.5k ;) B) :woohoo:

Re:V6 primer thread

Posted by slipsliderg - 2010/02/15 13:36

Latest from stateside,<http://www.mr2oc.com/showthread.php?p=4198554#post4198554>

Mrk III, 2GRFE conversion running 91 fuel, this is the corrected curve.

<http://i261.photobucket.com/albums/ii72/5lip5lide/Cars%20Misc/MrkIII2GRFEDyno.jpg>

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Re:V6 primer thread

Posted by Quandry - 2010/03/03 11:22

Update. Woodsport managed to shoehorn a 2GRFE in to a MK1 yesterday:

<http://img.photobucket.com/albums/v624/paddy1970/woodsport3/DSCN0129.jpg>
<http://img.photobucket.com/albums/v624/paddy1970/woodsport3/DSCN0131.jpg>

Full details in this thread: <http://forums.twobratal.com/showthread.php?t=17038&page=3>

To me it looks like it's a bit too tight. I can't see how you can change spark plugs etc etc, which was always a key selling point of their other conversions. However Paul is a pretty innovative guy and tends to think outside of the box so I think he will come up with some ways to make this a goer (removeable panel etc).

These photos are just to get the engine mounts sorted, they are going to detail the engine and make it all look fantastic - something that IMO differentiates Woodsport from all the rest - the amazing attention to detail.

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Re:V6 primer thread

Posted by Quandry - 2010/03/04 10:32

Can you say WOW!?

<http://i825.photobucket.com/albums/zz172/antnkel/c298341e-8b2f-4025-8428-6fe5c4819e3.jpg>

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Re:V6 primer thread

Posted by Spanky - 2010/03/04 13:56

GWrinkle wrote:

... Keeps up with standard tubbies no problem, ...

:bs: :lol2: :bs: :lol2: :bs: :lol2: :bs: :lol2:

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Re:V6 primer thread

Posted by slipsliderg - 2010/03/07 20:23

Taken from TwoBrutal.

200 ft/lbs from 1800rpm, swheet :cheer:

<http://forums.twobrutal.com/showthread.php?t=13418&page=2>

1276Put the car on the dyno this morning - they were well impressed with the improvement! I'm happy as Larry because I've always been looking to get it to around 300 bhp, whichever way I could - but N/A !! Not sure what's causing that dip at 3000revs, any ideas guys? They have printed out the comparison between this engine and when I had the 3vz fitted so you can see the difference. 2gr - 324.4 bhp and 285.4 lbft - like it!!!

=====

Re:V6 primer thread

Posted by slipsliderg - 2010/03/07 20:27

slipsliderg wrote:

Taken from TwoBrutal.

200 ft/lbs from 1800rpm, swheet :cheer:

<http://forums.twobrutal.com/showthread.php?t=13418&page=2>

pilotpete: Put the car on the dyno this morning - they were well impressed with the improvement! I'm happy as Larry because I've always been looking to get it to around 300 bhp, whichever way I could - but N/A !! Not sure what's causing that dip at 3000revs, any ideas guys? They have printed out the comparison between this engine and when I had the 3vz fitted so you can see the difference. 2gr - 324.4 bhp and 285.4 lbft - like it!!!

=====

Re:V6 primer thread

Posted by ricky2 - 2010/03/07 22:02

Quandry wrote:

Can you say WOW!?

<http://i825.photobucket.com/albums/zz172/antnkel/c298341e-8b2f-4025-8428-6fe5c4819e3.jpg>

Thats a peace of art :love:

=====

Re:V6 primer thread

Posted by Quandry - 2010/03/08 09:08

it might be the angle of the pic but it looks a little bit like the supercharger pulley is very close to the strut tower...

=====

Re:V6 primer thread

Posted by Quandry - 2010/08/30 21:03

Nice look from this 2GR-FE MK2 conversion...

<http://i14.photobucket.com/albums/a341/leewa79/2GR-FE%20Swap/18082010438.jpg>

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Re:V6 primer thread

Posted by Infamous - 2011/04/05 18:10

Are there any V6 conversion owners on here?

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Re:V6 primer thread

Posted by Quandry - 2011/04/05 19:38

Infamous wrote:

Are there any V6 conversion owners on here?

SlipsliderG!

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Re:V6 primer thread

Posted by Spanky - 2011/04/05 20:44

Quandry wrote:

Infamous wrote:

Are there any V6 conversion owners on here?

SlipsliderG!

... and GWrinkle, but haven't seen him post in a while

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Re:V6 primer thread

Posted by Infamous - 2011/04/05 21:11

What have you put your V6 in slipslidge?

Does anyone have a comparison/stats between a 3SGTE and a 3VZFE in terms of what it takes to fill both and what MPG you would then get from each (both in stock format)?

=====

Re: V6 primer thread

Posted by slipslidge - 2011/04/05 21:49

Mine is a 3VZFE (3.0 Ltr camry engine circa 1994) Mrk I T-Bar with three seized brake calipers and a firing problem that is wiring related and not fixed in the 2.5 years I have the car. More down to me than anything else. However it will be completed in every aspect by 2013. I also have a complete set up to convert a Mrk II to V6. Wiring takes a bit of time and ideally you need a standalone to get rid of the Toyota overfuel safety factor.

However stats mean nothing in this debate, it is a hot headed argument over the years. € for € nothing beats the 3SGTE for tunability.

Nothing beats the sound of a V6 on song.

Both eat juice when given the gas button.

To get the most of the V6 takes alot of work for little gain, although a Scion s/charger kit is being developed by Woodsport and Dan at the moment and that may have the V6 up to 300 crank horses, which would be very nice in a Mrk I MR2.

Lots of info out there on other owners clubs about the conversions, but be prepared to hear lots of emotional talk and very little

=====

Re: V6 primer thread

Posted by Spanky - 2011/04/05 21:57

The stats for both are similar ...

V6 - 200bhp - 200lbft

Tubby - 241bhp - 224lbft

Although the V6 is lower powered it does deliver its maximum torque across a wider rev range so performance is comparable.

Fuel economy seems to be worse in the V6. Some of the V6 drivers on the Scotland drive last year were struggling with 1 fill per day (about 220 miles a lot of it full tilt), whereas I was usually slightly better off in

my tubby.

Both engines sound nice but different. The V6 has a deep growl where the tubby has a whizz and pssssh (with the right dump valve).

The tubby is easier to get more power out of if that's what you want.

The V6 is probably more reliable due to it being NA and slightly simpler.

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Re: V6 primer thread

Posted by Infamous - 2011/04/05 22:09

So you have 2 different V6 engines Slip?
Jebus how long does the Scotland drive go on for Spanky?

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Re: V6 primer thread

Posted by Spanky - 2011/04/05 23:02

Infamous wrote:
Jebus how long does the Scotland drive go on for Spanky?

4 days through the Scottish highlands.

In total I done about 1100miles in 5 days. It's an event organised by MR2OC Sottish Reps held ever Easter - highly recommended. Sliper was on it as well ... in fact it was his honeymoon :woohoo:

some pics here

<http://s797.photobucket.com/albums/yy254/markspence/MR2/Highland%20drive%202010/>

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Re: V6 primer thread

Posted by slipsliderg - 2011/04/05 23:49

Infamous wrote:
So you have 2 different V6 engines Slip?

Both the same engine type, I bought the Mrk I with the V6 in it as a project and the other engine I bought as a learning exercise on engines that has not begun yet.

Both engines and gearboxes may be up for sale soon.

Edit: the highland run is more than brilliant, an experience in many ways and one I hope to repeat in due course.

<http://i261.photobucket.com/albums/ii72/5lip5lide/Highland%20Drive%202010/007.jpg>

<http://i261.photobucket.com/albums/ii72/5lip5lide/Highland%20Drive%202010/019.jpg>

<http://i261.photobucket.com/albums/ii72/5lip5lide/Highland%20Drive%202010/025.jpg>

<http://i261.photobucket.com/albums/ii72/5lip5lide/Highland%20Drive%202010/020.jpg>

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Re: V6 primer thread

Posted by Infamous - 2011/04/06 02:11

Thats crazy, I always saw the threads and stumbled on some pics before on the OC for the highland drive but didnt know it went on for that length of time, though it would have been a day or 2 at most :O

=====

Re: V6 primer thread

Posted by SleepMethod - 2011/04/06 08:51

That's pretty awesome, has anyone done the same for the MK3? It was mentioned that the engine bay didn't need to be altered/cut in too, since the MK3 doesn't have any extra room this sounds like good news to me.

I don't plan on doing any mods soon but in the long term I think instead of getting a new car in a few years I'll be doing a few mods and maybe a respray instead. A V6 sounds like a dream!

=====

Re: V6 primer thread

Posted by Infamous - 2011/04/06 22:28

I've been wondering about V6's and how their paper work works?! lol
Obv you would have to inform insurance but...
You would have to inform the tax office of the engine swap?
What if you didn't?
Would they check this at the MOT centre?
If your car wasn't down as a 3.0 on the tax book would you fail an MOT because of this?
If no to the questions above could you just pay the normal mr2 tax or would u have to pay the higher tax band as its a bigger engine?!

=====

Re: V6 primer thread

Posted by Spanky - 2011/04/06 23:04

Infamous wrote:

I've been wondering about V6's and how their paper work works?! lol

Obv you would have to inform insurance but...

You would have to inform the tax office of the engine swap?

What if you didn't?

Would they check this at the MOT centre?

If your car wasn't down as a 3.0 on the tax book would you fail an MOT because of this?

If no to the questions above could you just pay the normal mr2 tax or would u have to pay the higher tax band as its a bigger engine?!

I would think you would be in diffs if you didn't disclose it and get a revised V5. It wouldn't affect your car tax as it is based on the old system and is one price for 1500cc+ not like the more recent (totally unfair) emissions based system.

I would think that, if you didn't update the paperwork, you could have problems come a claim on your insurance as well.

MOT would probably be OK in that the car would pass, but you might find it is oid 'cause the car is different what your V5 says

=====

Re: V6 primer thread

Posted by GWrinkle - 2011/04/07 17:19

Hi guys :)

Hope you are well, nearly forgot about this site in my winter hibernation ;)

Car is gathering dust in the garage I'm afraid as it looks like I haven't the spare cash to insure her this year. Tempted to sell her if I got the right price, otherwise I'll just hold on to her as I know I'll never get the money thats been put into her.

I'll be in touch again soon when I have a bit more time

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Re: V6 primer thread

Posted by Infamous - 2011/04/07 17:35

Would you be able to shed light on any of my questions GWrinkle, or have any advice in regards to an MR2 with a V6 transplant?

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Re: V6 primer thread

Posted by GWrinkle - 2011/04/07 18:12

Of course.

As I'm Belfast based I can only answer from a UK perspective.

Like any modification you need to declare all to your insurers and the govt office dealing with road tax and MOTs, otherwise you could end up in a world of pain.

I bought mine converted. Previous owner had not declared it in the registration book (V5 here). Painless to do it but you may require an engineers report to certify that the conversion is safe. It didn't have any impact on road tax cost because of the age of the car.

At MOTs I don't mention the engine conversion. Its in the V5 for them to see. Ive taken it through 2 MOT's and it hasn't been mentioned once. Emissions wise its passed each time.

Cost to run would be expensive as an everyday car. But I use mine for only about 3k a year. Heavy footed driving is about 15 mpg, normal driving is 20-30 depending on mix of urban/rural/motorway driving. I have an N/A Rev 1 gearbox which has much shorter ratios than an equivalent Tubby box,. Makes for better acceleration but lower top speed and poor fuel economy.

Insurance can be expensive. I've paid on average £430 per year, fully comp, no claims limited to 5k miles and I'm 43 years old. Only two insurance companies in Northern Ireland will insure the car with this conversion.

Performance wise its somewhere between a 2 litre N/A and a standard Tubby. Its more of a cruiser than the high revving 2litre n/a. With loads of torque from 2k revs. I find the power deliver much more useable and more spread out than the tubby engine. Less of a wow factor without boost. Noise wise its incredible on full song.

With a short ratio box on a straight road shes marginaly slower than a standard Tubby to about 80,then the Tubby leaves it for dead. On twisties it doesn't matter what engine you have performance is much the same regardless of engine and is limited to how big your balls are and the suspension/brake set up :)

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Re: V6 primer thread

Posted by Infamous - 2011/04/07 18:29

Cheers for the response, if the KC button was viewable I would send some your way. Who are the two companies in NI that will quote for these cars?

=====

Re: V6 primer thread

Posted by GWrinkle - 2011/04/08 09:41

No problem. Greenlight and AdrianFlux. I used Greenlight, they are very familiar with this conversion and give the most competitive quotes

=====

Re: V6 primer thread

Posted by Infamous - 2011/04/19 02:14

Just wondering if anyone has any links to a 3VZ Turbo project thread?

I've been looking through this one tonight...

<http://www.twobrutal.co.uk/forum/showthread.php?8745-Whoozy-s-Mk2-V6-TURBO!>

Tis crazy!

Posting it here for future reference.

:S I was 30pages deep after submitting this post, I just read on and found that this was abandoned :(

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Re: V6 primer thread

Posted by slipsliderg - 2011/04/19 08:27

Here's another one for you and a home build.

Hmmm, V6 Twin Turbo

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Re: V6 primer thread

Posted by Infamous - 2011/04/19 13:21

Cheers Slip.

Do you know of any where they've put the turbo on top of the gearbox as opposed to a boot mount?

I've read that for piping reasons etc its better to do a boot mount but I don't like the idea of cutting up an MR2 like that, even if it is for more horsies!

=====

Re: V6 primer thread

Posted by slipsliderg - 2011/04/19 18:25

Infamous wrote:

Cheers Slip.

Do you know of any where they've put the turbo on top of the gearbox as opposed to a boot mount?

I've read that for piping reasons etc its better to do a boot mount but I don't like the idea of cutting up an MR2 like that, even if it is for more horsies!

Like this one: 5VZ (3.4 ltr V6)

<http://img.photobucket.com/albums/v624/paddy1970/woodsport2/S7301037.jpg>

Link to more photos here.

JohnnyG's 5ZV Turbo[

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Re: V6 primer thread

Posted by Infamous - 2011/04/19 20:02

Holy Mary Mother thats a big IC lol

See he's gone through the boot wall as well to hold that fridge of an IC in there.

I've been thinking about doing this but if I did i'd want everything in the engine bay, i'm not looking for huge power like that, just looking for an upscaled version of a 3SGTE, in 3VZ form and still reliable and where i didnt have to go changing everything to support the fecker.

Been looking for something that matches this to go on but so far I havent found anything like this.

=====

Re: V6 primer thread

Posted by slipsliderg - 2011/04/19 21:46

Infamous wrote:

Holy Mary Mother thats a big IC lol

See he's gone through the boot wall as well to hold that fridge of an IC in there.

I've been thinking about doing this but if I did i'd want everything in the engine bay, i'm not looking for huge power like that, just looking for an upscaled version of a 3SGTE, in 3VZ form and still reliable and where i didnt have to go changing everything to support the fecker.

Been looking for something that matches this to go on but so far I havent found anything like this.

There is nothing easy about turboing the 3vz engine as it is N/A in its natural habitat. I have not seen a succesful one completed yet. But their is hope still with Hmmm's build.

TwoBrutal is a dangerous place to visit as it will give you notions and ideas you never tought relevant like a Mrk I V8's, Audi and Toyota engined, 3.5 Ltr V6's all marques, Diesel Mr2's, airplane engined Mrk II's, taking LSD's from spyders and putting the into Mrk II N/A gearboxes as plug and play, also lots of other mad stuff.

Here is one of interest if you are considering going V6. Woodsport & Dan are developing a s/charager kit for the 3VZ which will most likely be plug and play if you are only looking for about 6 PSI.

However nothing on TwoBrutal is off the shelf, you have been warned.