

The super-charged Porsche 924

A bespoke supercharger kit
for the naturally aspirated 924
developed by
dipl.ing. Ciprian Suci

Photos and text; Ciprian Suci



How do I even begin?
This same question I asked myself a few of years ago when starting to work on this idea. The idea of a more fun 924, a fun 924 that would fit into today's world. Take that with a grain of salt as today seems to be all about EVs and road cars with insane amount of power that you will never need, use or learn to master.

The truth is that modern cars are much, much quicker than old cars, more responsive and easy to control than ever before. I'm referencing my 987 Cayman here but I suspect other modern sports cars are good as well.



Wouldn't it be nice to have some of that in our beloved 924 but somehow still keep its character? its identity..

If it's power you want, there are countless options out there, ranging from buying a modern car, a quicker car, to doing an engine swap or turbocharging your 924 and converting it to modern engine management.

All of those would make your 924 almost, if not unrecognisable or get rid of it entirely.

I'm not saying swapping in a turbocharged 5cyl would not make a fantastic car out of the 924, it undoubtably would...but it would not be a 924 anymore. So what can we do to keep the 924 but have it do better by modern standards?

We can upgrade the brakes and suspension with stiffer springs, coilovers even, thicker sway bars from its evolution models, the late 944 and 968.

That will make the car control sharper, more predictable and more fun to drive...but its not going to be enough. We still need to do something about that old iron heart.

So here is what we did...it took us about two years but we now have a bolt on, fully reversible, all bolts and nuts included, easy to install supercharger kit for the 924 NA 2L. This is designed so you can install this yourself, in your garage, in a few hours of work, without taking the engine out of the car, without welding, without dismantling the engine.

Well at least for the ROW LHD 924 it is like that, the

A power surge to play with, the very instant you press the pedal, from down low RPMs, at your disposal, at any time.

RHD, factory AC equipped 924s and California smog pump versions require some extra work and extra parts but we have that covered as well thanks to our amazing community.

To support the people that order this kit, I've put together an online website packed full with essential information needed when performing this conversion on the 924. I've also produced and organised a set of detailed videos showing every step of the assembly and touching on every aspect that me and the early adopters found important.

This project is, for me, the most important technical achievement accomplished so far, I'm proud. I used what I learned in my 15 years of work in the automotive industry and I also took the help of bright minds such as Cedric Nyberg during development and I took the feedback that the early adopters like Shaun Hurworth and others offered.

Thank you Cedric, thank you Shaun, thank you Chris.



The aim here is to help bring the base 924 into today's motoring world, make it relevant again as a sporty coupe. The idea is not to spend several thousands to create a car that you're afraid to use or feel intimidated to use or a car that you can

A power surge to play with, the very instant you press the pedal, from down low RPMs, at your disposal, at any time.

All this, with great respect to the original car and an enthusiast budget. You only get this kit if you want to keep the spirit of your 924 but want to enjoy driving it a bit more.

This is not everything the 924 needs in order to become amazing, but it's probably the most important.

The base 924 could also use some lateral seating support, faster steering, better steering wheel position in relation to the driver and some stiffer suspension. A limited slip differential is surely a great thing to add to a supercharged 924 as well.

I've put together a recipe which in my opinion improves the 924 as a sports car to the point that I personally choose the 924 over my Cayman quite often. You can find that recipe on my website: www.the924.com

So back to the kit, what it is, what it isn't, what it does and what not: it is a complete set of parts down to the last nut and bolt for the 2L 924 that allows you to install a mechanical compressor on your 2L 924 NA. It takes a specific compressor, not just any, the Eaton M45 coming from the Mini Cooper S, generation R52 and R53. The compressor is not included in the kit, you have to find one locally to you.

The kit is designed and built to push a maximum of 0.3 bar into the 924 engine.

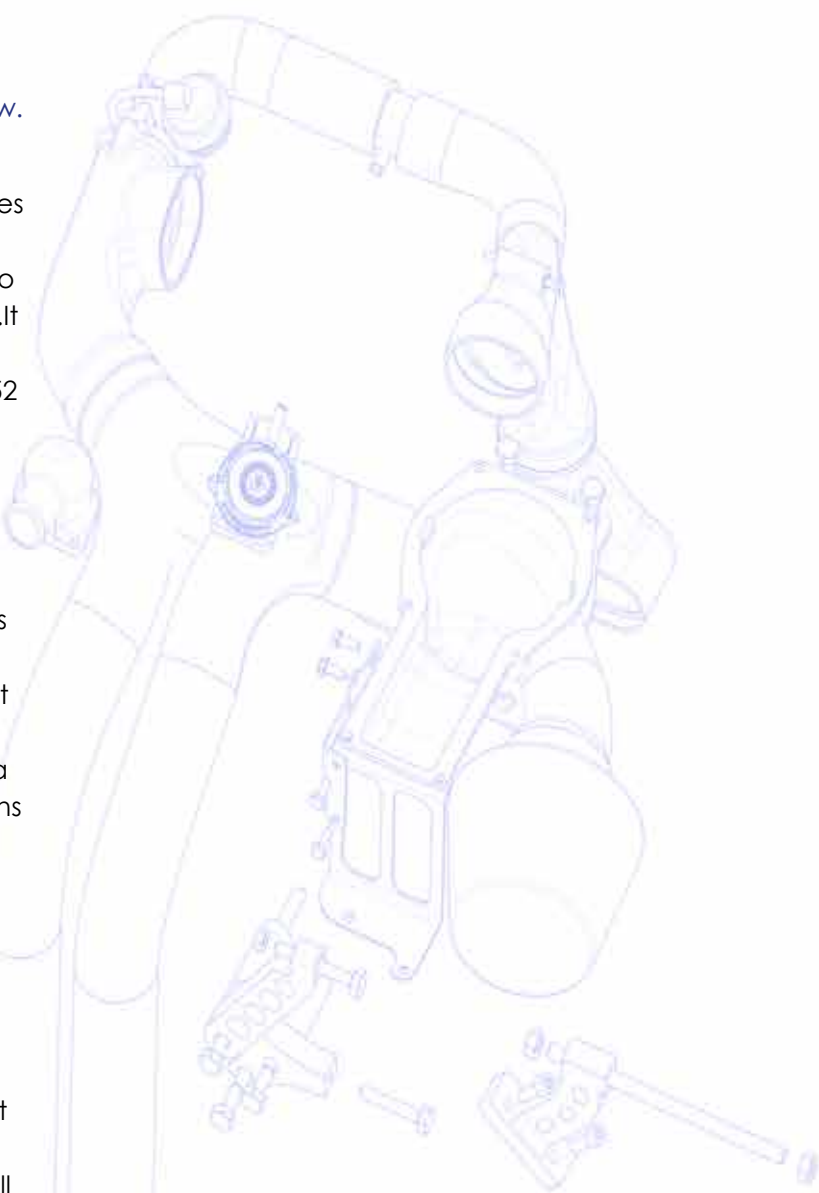
With this kit, the 924 becomes truly special. It sounds sportier, revs quicker and moves faster in any condition, it shoots out of corners like you would not believe it. Depending on weather and what tyres you have on the car, it can even reward you with a little second gear power-slide if you give it the beans mid-way through a turn and swing its weight a bit.

In a nutshell, it aims to improve the driving experience while keeping the car as original as possible.

It took about two years of design loops like this: imagine, measure, design, prototype, test. I'm still working on the kit, meaning there is always the next thing you want to do to it so that it's better in some way..but at this moment it is a stable system that will work the same on any 2L 924.

This kit aims to be more than just a technical achievement...

hopefully this changes the public image of the 924 for the better





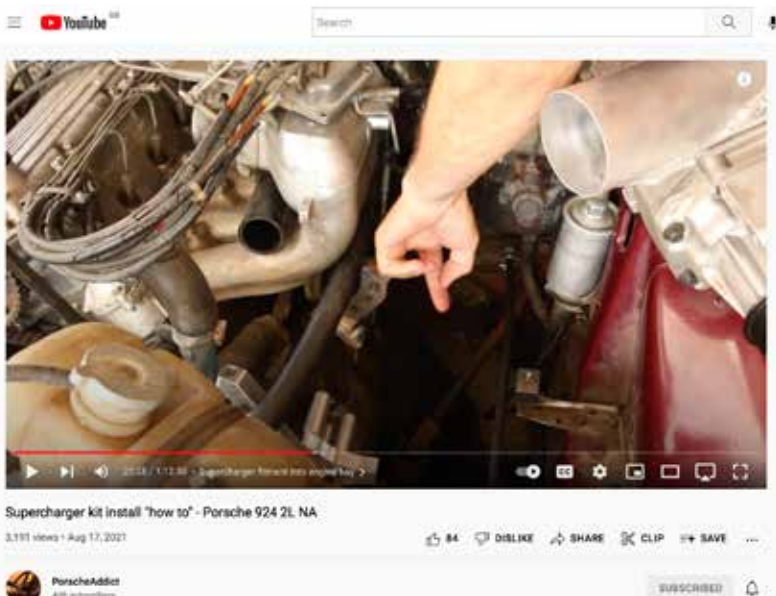
Every custom part is CAD designed. Some of the parts are CNC milled, some made on a lathe, some are 3D printed and reinforced, some laser cut, water-jet cut, and some are made on a stamping machine.

The kit does not require a head-gasket change, it runs on the original internals and the original fuel injection. The kit requires a properly working 924, injection, ignition, the whole car needs to be in good working order and you're good to go for supercharging your 924 within a weekend.

There are over an hour worth of tutorial videos on my YouTube channel explaining how to assemble the kit to the 924 as well as a parts and bolt graphic overview, all linked on www.the924.com

There is also a vast set of informations about pre-installation preparations, first start advice and lessons learned, tuning, ignition setting and so on.

Nothing is perfect, and this kit is no exception,

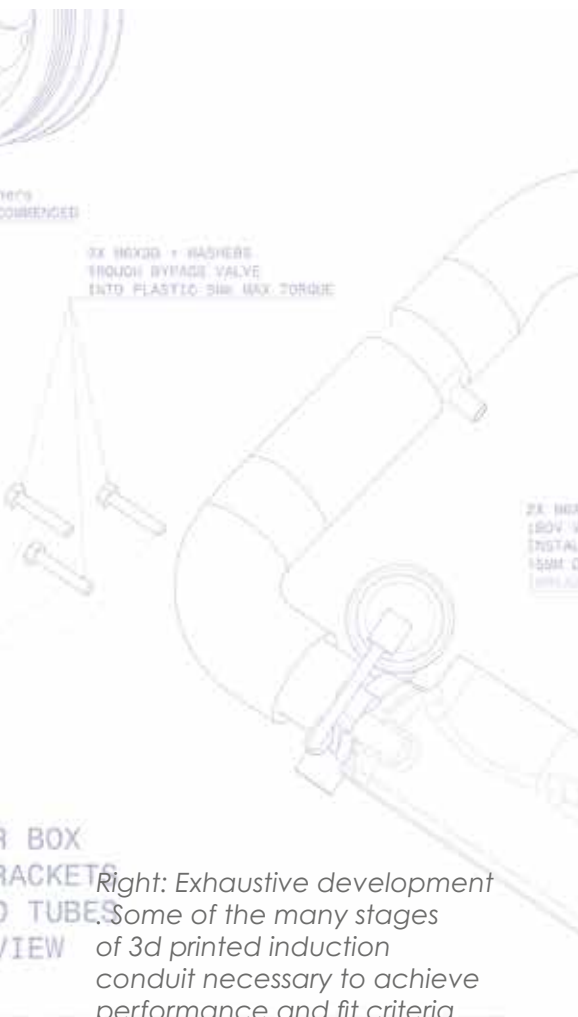


Above: One of the many detailed installation videos Ciprian has created to assist users.

Right: 3d printed aluminium components



What the kit absolutely does not do is account for bad tuning, bad engine condition or improper installation. If you forget to tighten something up, or you don't seal something up, you can potentially damage the kit



Right: Exhaustive development
of some of the many stages
of 3d printed induction
conduit necessary to achieve
performance and fit criteria

SUPERCHARGER BRACKETS CRANK PULLEY BELT TENSIONER BOLT OVERVIEW

M10X150 + WASHER
TROUGH TENSIONER ROLLER
TROUGH TENSIONER ARM
TROUGH FRONT BRACKET
TROUGH CYLINDRICAL SPACER

M8X65 + NUT + WASHERS
TROUGH SUPERCHARGER BODY

or even your engine or just not get the full benefit of what a proper setup can give you.

Also, the kit won't make up for the extra fuel that the engine needs while supercharged. The original, properly working, well-tuned fuel injection will be enough to have a functional, safe and fun 924, but it may not be enough to extract the maximum horsepower potential out of your supercharged 924.

This means that you will get a quick and fun car with loads of torque but if you must have top RPM "big" numbers, you will likely need to improve the fueling control and use an intercooler.

An intercooler is in the plans for the very near future. Design is done and testing will start during this summer. It will also be a small effort upgrade package that one can just assemble at home with a minimum amount of tools.

The plan is also to upgrade one of the currently 3D



AIR FILTER BOX SUPPORT BRACKETS VALVES AND TUBES BOLT OVERVIEW

IMPORTANT NOTE:
ALL CLAMPS MUST BE WITH METAL REINFORCEMENT RINGS INSIDE THE PLASTIC FITTING
ALL CLAMPS AS TIGHT AS POSSIBLE WITH A TORQUE WRENCH, PULLING DOWNWARDS

OPTIONAL: USE VICTORY RINGS BETWEEN SILICONE COUPLERS AND PLASTIC FITTING. ALLOW TO CURE FOR 48 HOURS BEFORE STARTING THE ENGINE

VEGA_(V2)

SUPERCHARGER KIT

DESIGNED FOR THE PORSCHE 924
2L NATURALLY ASPIRATED

AND EATON M45 CHARGER FROM MINI COOPER S R53

DESIGNED, BUILT AND TESTED BY:
dipl.ing. CIPRIAN SUCIU
www.the924.com



Left; 'Green numbered' Turbo gauges,
brown interior- nice!

Above: Ciprian's much-amended
hard-working test rig

0x M6x1.5 = WASHERS + NYLON LOCK NUTS
TROUGH HOT START VALVE

I've put together a recipe which in my opinion improves the 924 as a sports car to the point that I personally choose the 924 over my Cayman quite often.

printed charge pipes to a custom silicone part and replace the other one with intercooler aluminium piping.

So what's the cost of all this? Due to the instability in the world's economy I can only give you an approximate cost. The V2 basic kits cost 1200 EUR + shipping, 50 EUR for Europe and UK, 100 anywhere else. The intercooler upgrade will be priced separately.

The cost for a used supercharger can be quite different from place to place.

I bought two myself, one for 150eur in a pretty worn condition, but it worked and still works really well today, and a fully rebuilt one for 350 euro, but this was a bargain and realistically you can expect to get a decent condition one for around 500 EURO in Europe. These chargers don't cost the same everywhere in the world though, they are likely cheaper to get in UK but I've found out that they are very expensive in Australia.



I offer full support and consulting for purchasing a used charger, i also offer full support for the assembly and tune-up process.

Spare parts are and will be available for the long run should that be needed.

The RHD 924 is a bit special as it has an offset position for the alternator and that complicates things for fitting the kit.

The solution is to use LHD brackets and use a modified alternator cooling shroud. Chris Madge of the 924 owners club will happily do this modification of the cooling shroud for you as he has developed a template for that and is located in the UK. These LHD brackets can be bought used or new, but i also offer manufactured replacements for the RHD customers.

At the time i'm writing this article, the production of the kits has stopped. I am focusing on improvements and upgrades for the rest of the

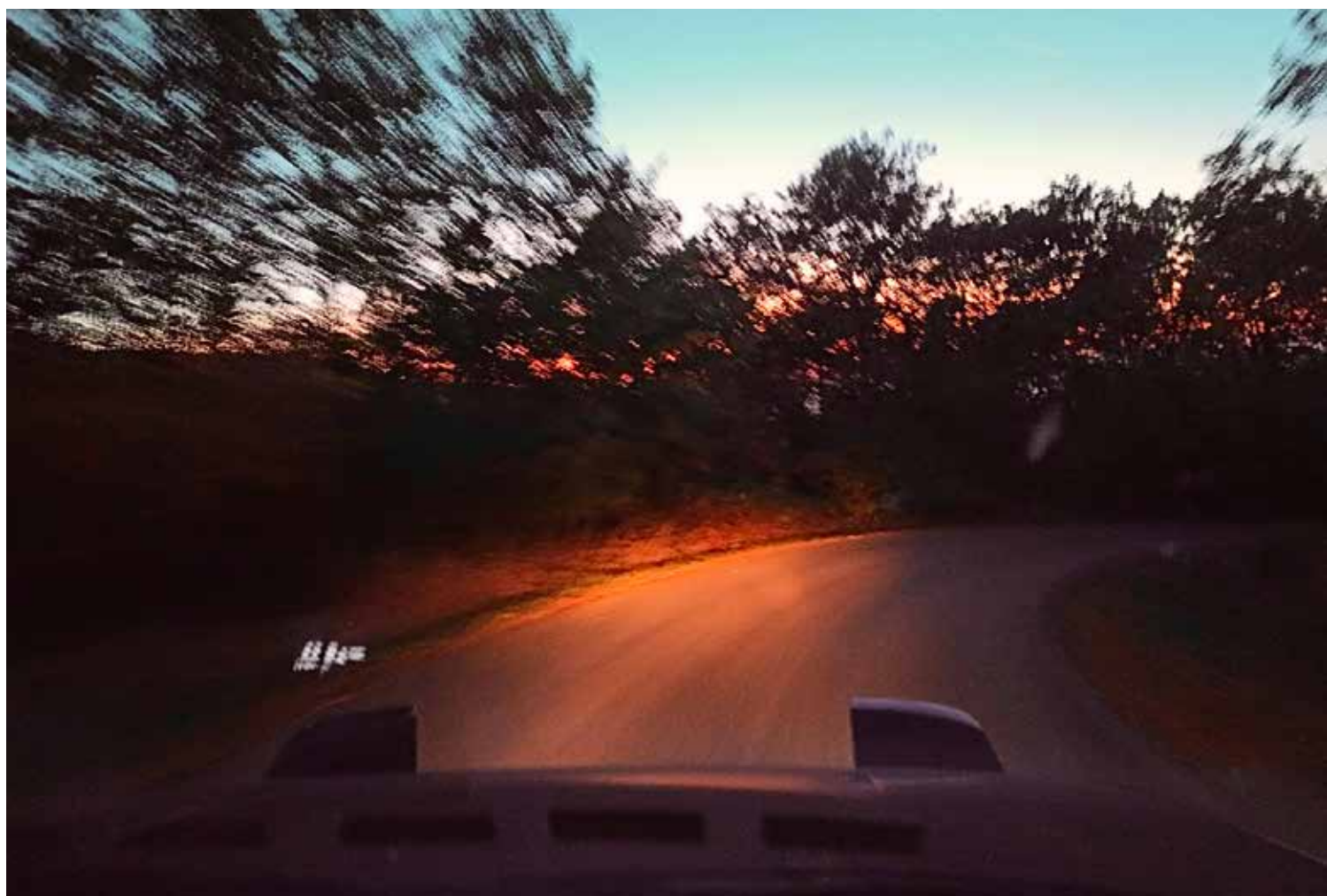
summer. Complete kits production will resume towards the end of the year when the new wave of improvements and upgrades will be tested and shipped to the previous customers.

This kit is currently being enjoyed in 924s all around the world, Romania, UK, Australia, USA, Canada, Netherlands, Sweden, and will soon be up and running in other countries like Austria, Hungary, Germany, Czech Republic and Greece.

I am grateful for the community that helped me and allowed me to develop this kit. I am grateful for the help i got from distinguished individuals from our global community and I am grateful for those first believers that committed and stayed as customers. I even have a returning customer, buying a second kit for his second 924 (cheers Manny!). I could not ask for anything better.

All the best,

Ciprian.



Early adopters of the Supercharger kit

Chris Madge

Chris's well-presented supercharger installation is running well and won him the 'Modified 924 of the show' award at the 924 Owners club National Rally at Prescott Speed Hill Climb. Chris solved the RHD alternator shroud issue and will be producing custom shrouds for the future RHD kits



Erik Danielsson

After several years of hiatus Erik's 924 is now back at the autocross tracks in Sweden. Running the supercharger has given the 924 a new lease of life. Erik is looking forward to further exploring the supercharged performance both on and off the track.



Shaun Hurworth

"Ever since I bought my 924 the plan has been to modify it to make it as fun to drive as possible without sacrificing comfort. This kit has been the single best thing I've done to the car with that aim. It's woken up the throttle response, has enough torque out of corners to really make you smile... and I'm obsessed with the noise it makes. As is my son!

The kit is top quality and straightforward to fit, especially with Ciprian on-hand as tech support. It probably took me three or four evenings, plus a bit of R&D time as I was one of the first LHD kit installed. I'd advise also fitting a wideband O2 sensor if you don't have one as it helped me get the tune right and feel confident in my early test-drives. I can't imagine the car without it now" -Shaun .

