My new 997.1 engine has rubbing in cylinder

Beitrag von „Frage -> Antwort“ vom 15. Juli 2022, 06:51

Hello,

I have just found your website after browsing the net.
I found the Carrera to GT3 conversion story very interesting.

I had a new engine rebuilt by Porsche Belfast in 2014 at 50000 miles. (All done under extended warranty)

My new engine has been running for 30,000 miles and now has a little rubbing in cylinder 1. Oil consumption is still normal and exhaust tips clean.

I would be very keen to hear your thoughts on upgrade options.

Kind regards,

Tim

Beitrag von „Albert Motorsport“ vom 15. Juli 2022, 07:13

Hello Tim,

You probably won't like my answer very much.

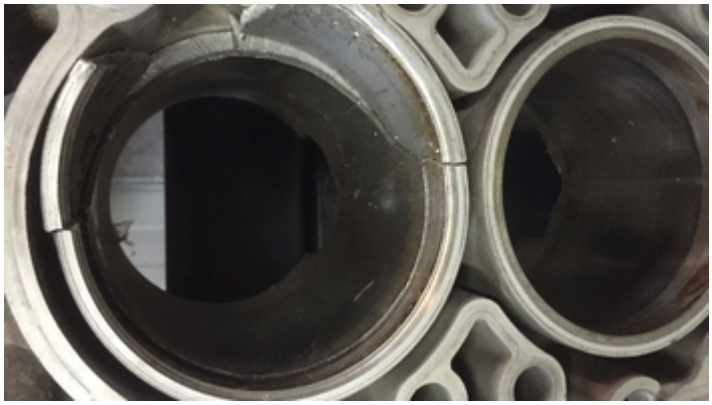
What you describe is the start of renewed engine damage on your Porsche 997.1.

Firstly, there are slight signs of abrasion in the cylinders of these engines, which gradually increase in size.

This is followed by a slight knock at operating temperature, which increases with increasing mileage.

After some time, increased oil consumption sets in, initially with temporary, later more severe smoke formation and discoloration of one or both tailpipes.

We have had several cases where our customers have not noticed the phenomena described above. They always dutifully poured more oil and drove on without worrying or going to a workshop.



Then suddenly, usually when driving on the highway, there is a powerful knock or a very strong clicking from the engine with a subsequent blockage of the engine.

The result is always colossal engine failure.

If you pay attention to the first signs and consult a specialist, you can save yourself a lot of money.

In the case of scratches or heavy running marks in cylinders, there is no way around an overhaul.

We have been doing Porsche engine repairs for 48 years now and have developed a permanently solid repair method for the Porsche Wasserboxer engines.

We simply replace the problematic components completely. Complete means that we mill out the aluminum cylinders and insert nodular graphite cylinders with new pistons.

In recent years, we have almost always combined the repair with an increase in displacement, so that after the damage the customer has increased driving pleasure with a higher mileage.

From a 3.4 liter engine, we can make a 3.7 or 3.9 liter. to build.

From a 3.6 liter engine we build a 3.8 liter engine.

If customers have time and want to get the most out of it, conversions to 4.0 or 4.2 liters are also possible.

So that Porsche series parts can continue to be used, we recommend our customers the 3.8 liter Porsche 997 forged piston variant.

In the many years in which we have been carrying out the work, we have not had a guarantee case or renewed damage to this day. Why? Because it's the best repair method that can be done. Otherwise we would choose a different variant.

I'm happy to answer any questions.

Many greetings

Jurgen Albert

Beitrag von „Frage -> Antwort“ vom 15. Juli 2022, 07:56

Morning Jurgen,

Thank you very much for the quick and informative response.
The pattern you mention is as I have been described by others. I need to keep a close watch on how quickly it develops. The car currently drives 3000 miles a year approximately.

I have a few questions though if you don't mind clarifying please?
My engine is the 2006- 911 - 997.1 4S - 3.8L. Do you recommend keeping it 3.8L or does your strong fix include boring out to 3.9, 4L or even 4.2L?
I've had the standard rebuild which I know doesn't work.
I've heard of Stainless steel Liners and Pistons being used for repairs... Not sure what your thoughts on this method is....

XXXXXXX in England bore out to 3.9 and use Nikasil liners and pistons.. They claim an increase in BHP and Torque to aprox 400BHP.
Another repair I heard was to use forged pistons..
And then your fix of nodular graphite liners.
Everyone claims their method is the permanent fix which leaves me in a dilemma.
Could you possibly help me understand a little more about the Nodular Graphite method and why you feel its best.

Also, can you offer a guide price for upping displacement and increasing Torque and BHP? and also a price for keeping the engine at 3.8L.
Horsepower isn't everything for me but If I'm getting work done and it's cost effective then why not have a little extra.

Thank you again,

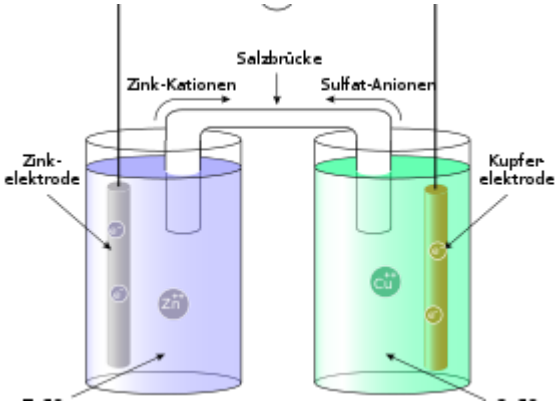
Kind regards,
Tim.

Beitrag von „Albert Motorsport“ vom 15. Juli 2022, 08:21

Hello Tim,

It is not easy for a customer to deal with this topic, I am fully aware of that. I'm trying to shed some light on the shadows of ignorance.

Whenever we associate other metals with aluminum, whether it's steel, stainless steel, chromium compounds, nicasil compounds or whatever, we create stark differences in the electrical voltage series.



Electrochemical potential series is a listing of redox couples according to their standard electrode potential (redox potential under standard conditions). In this row, the oxidized and reduced forms are listed side by side, as well as the number of electrons transferred and the standard potential of a redox couple.

Put simply, this means that electron migration takes place between the metals brought together, which in the long run leads to wear and oxidation of the metal that is lower in the voltage series.

When oxidation occurs, corrosion occurs. This can take place on the surface or in the intergranular state.



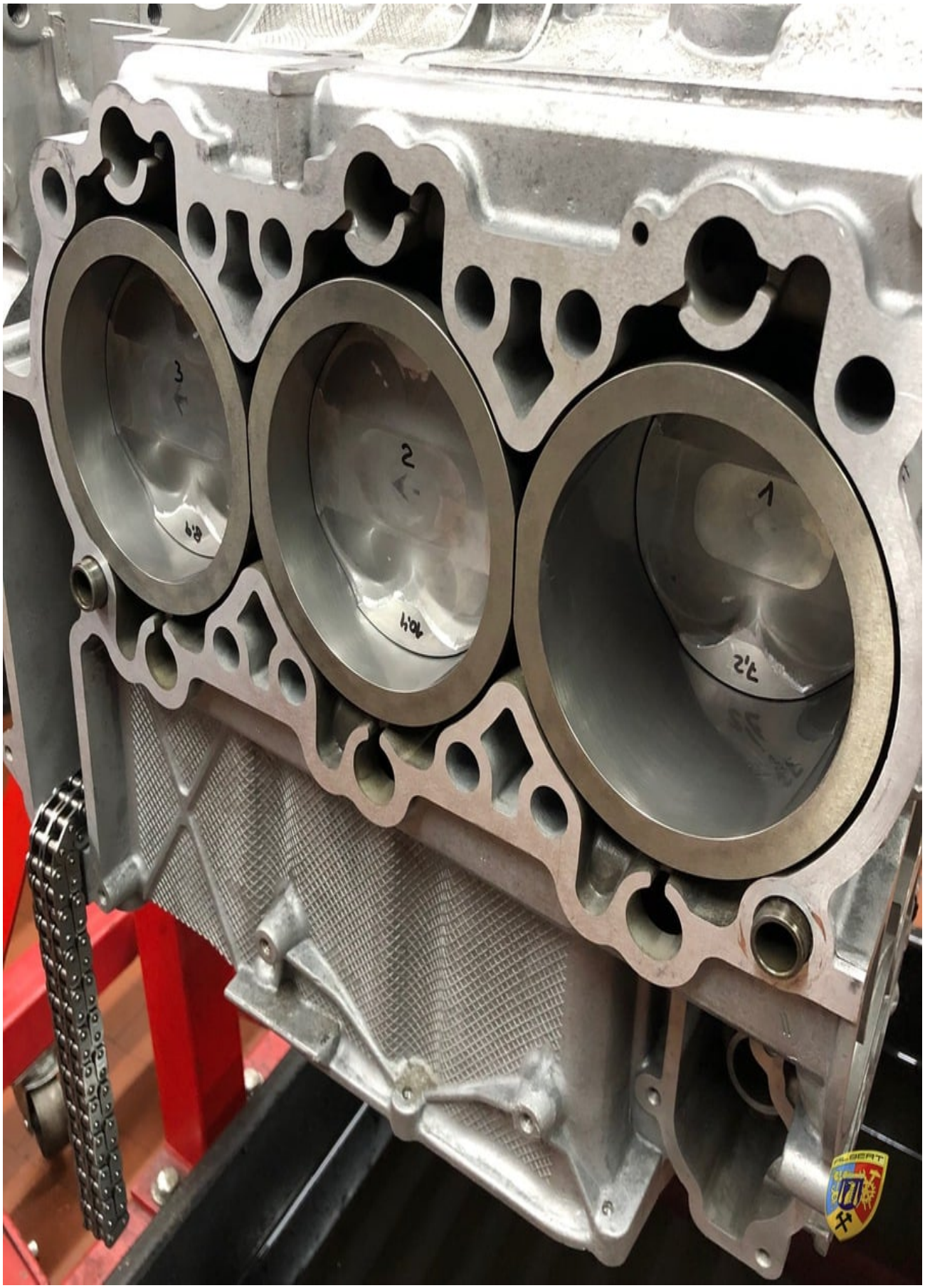
The consequences of this are in coatings. Detachment of the coating from the metal.



With different materials: Corrosion formation, gap formation, water penetration, leaks, cracks, engine damage.

All other methods take the unstable Porsche basis and build your "optimal solution" on it.

We don't do that, we go to the heart of the matter.


3
2
1

We completely eliminate the unstable Porsche cylinders and install completely new, solid graphite cylinders.

HERE under this link I have described precisely why we
are doing this and why we have not had any damage yet!

If I were you, I would build the engine with 3.8 cylinders and forged pistons from Porsche. This is the optimal, cheapest solution.

Larger pistons are feasible, but mean long waiting times for the individually manufactured pistons, dependence on this one piston manufacturer, and in the event of damage, the risk of not simply getting the pistons and having to replace all 6 again.

20% of all the work we do is guarantee work, warranties and damage repairs from other, mostly cheaper, repairers.

I therefore recommend you: Build the engine with our cylinders and Porsche pistons and you will have good technology in the long run that will not cause any problems.

All this with a 24-month guarantee with no mileage limit

If you have further questions,
please let me know.

Best regards

Jürgen Albert

Beitrag von „Frage -> Antwort“ vom 18. Juli 2022, 07:44

Hi Jurgen,

That's great, thanks for the explanation and advice.
Could I use my existing pistons in the new Graphite Cylinders or is it advised to change them all?
Or is it just the piston rings you need to change?

What else usually needs replaced? If as in my case the engine is still running well.
Also, is it possible to opt for the X51 power upgrade with this method or would you advise against this...
The last thing is price and lead time to do the work. Would it have to be done in Germany by yourself

or can the parts be shipped and fitted by a porsche specialist in the UK/Ireland?

Kind regards,

Tim

Beitrag von „Albert Motorsport“ vom 18. Juli 2022, 07:58

Hi Tim,

there are different variants of conversions possible, in your case I recommend a repair with new Porsche 997S - 3.8 liter pistons and graphite cylinders.

This is the best way to build your engine solid and durable.

Performance increases are also possible. The x51 variant is also possible to generate a little more power.

It is also possible to coat used pistons, but the cylinders are then made to match the pistons.

We prefer to use new pistons for repairs, because then everything can be delivered to you new and in optimal condition, with a 24-month guarantee with unlimited kilometers.

Estimating the exact costs in advance of a repair is dubious because it is always wrong. We have to guess to conjecture what could be defective.

We proceed according to the principle: see - judge - act and create an exact cost estimate after the engine has been dismantled.

The repair costs with us vary greatly, depending on what needs to be renewed, they vary between 8 thousand. and sometimes over 20,000 if everything inside is defective or outside of the target values.

Yes, the work must be carried out here in Germany. Because only when we have carried out the conversion can we guarantee a 100% perfect job, so that you do not have damage again like in the past.

Many greetings

Jürgen Albert

Beitrag von „Frage -> Antwort“ vom 18. Juli 2022, 08:56

Morning Jurgen,

Thanks for that. I presume the cost is in Euros?

8000 euros for a standard rebuild with nothing else required bar new cylinders and pistons..

How long would it usually take to complete the work?

Do you have a cost for fitting the X51 Kit?

Kind regards,

Tim

Beitrag von „Albert Motorsport“ vom 18. Juli 2022, 09:03

Hello Tim,

I think it is important that we take a close look at the technology beforehand and then create a cost estimate based on the facts at hand.

The previous announcement of prices makes no sense, and I feel it is dubious if you have not seen the technology, so I don't want to do that either.

It doesn't matter which intake system we install during assembly, changes may still have to be made, but we see that when the components are delivered.

Best regards
Jürgen Albert