3 Crucial First Steps
To a VW Beetle Restoration That You'll Love

Insider Secrets From Eric "Spook" LeClair of AirkooledKustoms
The 3 Crucial First Steps to a VW Beetle Restoration You'll Love

The fact that you’re reading this tells me you’ve been infected by Dub fever. There’s nothing to be ashamed of, and unfortunately there’s no cure. There’s no wonder, though – Beetles are iconic, you've probably got childhood memories of riding in them, and then there’s the sound. Nothing like it.

We see it all the time at our Hazel Green, Alabama shop. Once it strikes, resistance is futile. You'll start seeing classic VWs while you’re running errands. You'll find yourself parking next to them just to get a closer look. You may start spending the occasional hot summer night strolling the streets of towns that host car shows, taking pictures and trying not to drool on the vintage steel there. You may even find yourself traveling ridiculous distances to attend VW car shows, just so you can add to your mental file of “someday” ideas.

Next thing you know, you'll be downloading a free report about how to get your restoration off to a good start.

Of course, one of the first lessons in taking on a project of this size is to do lots of research. You've probably got a massive learning curve ahead of you, and you'll want all the help you can get to keep the project from going sideways on you.

In fact, you should probably research me (Spook) and my shop before you go too much further. You can look us up at www.AirkooledKustoms.com. Go ahead. I'm not going anywhere.

OK, so you want to restore a Dub.

I’ll give you some of my dad's famous advice:

“Don’t do anything half-assed. Do it full-assed.”

So if you're ready for some advice to help you get your restoration project stared, here it is…
First a little reassurance.

Is the VW Beetle a good restoration project?

Yes, and here’s why:

• The Beetle was the highest production model of all Volkswagens (air cooled production running from 1938 – 2003), and ranks second highest worldwide for production of any car. Getting replacement parts and aftermarket parts is fairly easy (for now).
• You’ve probably got an emotional attachment to the Beetle – maybe a childhood memory (Slug Bug!), maybe you’ve just always appreciated their look, feel, and smell. Having a connection like that will help you.
• It’s a great car for customizing. You can imprint your personality on your Beetle – whether it’s aggressive, girlie, bone stock like it rolled out of the factory, or stealthy and filled with upgrades.
• It makes for a very cool piece of kinetic art you to create and drive.

But you’ve probably got some (reasonable) concerns now that you’re about to get the project started.

Maybe one of these hits home:

• It’s a HUGE project, which is a little overwhelming. It’s a lot like thinking about eating an elephant, which of course you know is a problem easily solved with bacon. Well, that and taking one bite at a time.
• You may still not be sure of the scope of your project, meaning what you want to do to the car. You know you’ll need to make some decisions – not everyone’s favorite task.
• You’ll need (or pick up!) a pretty significant skill set. You’re going to be cutting metal, sourcing replacement parts, welding, grinding (yeah, not that kind), hammer and dolly work, and moving steel. Plus, doing mechanical and electrical work. Oh, and paint. Maybe even some upholstery.
• There’s a lot that can go wrong at every step along the way. Use too much heat when you’re working on the steel, and you’ll warp the panels. Drop the car on yourself, and you’ll feel it in the morning (if it doesn’t kill you).
• You might run into some very common problems. From my years of doing restorations, I’ve seen cars come in with rotten floorboards (especially under the battery tray), rust in the bottom of the A-pillar where it attaches to channel, rust in
wheel wells, badly repaired damaged from collisions, and a lot more. It’s a little unsettling knowing you could easily get in over your head.

• It’s pretty much a guarantee your project is going to need replacement parts, and you’re going to need a reputable and reliable source for those parts. There’s a lot on the market that is absolute crap, but it’s hard to tell when you don’t necessarily know what you’re working with.

• You’ll probably also find some creative electrical hacks in your project. Remember, these are typically 40+ year old cars. Somewhere along the chain of owners, someone probably added some sort of ‘enhancement’ that screwed up the electrical system. The wiring is the nervous system of your car and makes everything work (or not), including trivial functions like headlights, horn, and ignition. You’ll most likely be best off just getting an entirely new wiring harness to install, because even if your original one hasn’t been hacked, it’s got some age and the insulation starts to get brittle after a couple of decades (don’t we all?). So, how are your wiring skills?

• Should we even get into the brakes? Soft lines, wheel cylinders, bearings… Or the transmission? Is it loose (likely), tight, popping out of gear, refusing to go into other gears?

• And of course, there’s the engine. If you’re lucky, you’ll find a running, driving car that has a good engine only needing a tune-up. Or, it might be toast. In that case, you’re looking at replacing the engine. You could try building it yourself, but the machining and other tasks and tools needed are a bit of a hassle (understatement). You could always buy a kit, but you’ll need to be mechanically inclined to build your new engine. If you’re up for that task, you should definitely do it!

I don’t sugar-coat anything.

If you’re still determined to do a VW restoration, it’ll probably help you to have some guidance. This report is just a report – it’s not like I’m right there telling you what to do next, showing you how it’s done. But it should be helpful in getting you off to a good start at least.

Expert help should save you some aggravation because you don’t have to reinvent the wheel – you can just do what’s worked well for me for all these years. It'll cut your learning curve and make your project go a little faster because you're not getting stuck right at the start. You’ll probably even save money along the way because you won’t make costly mistakes as you get going – the kind that are easy to avoid if you know about them.
Step 1 – Sourcing a Core
This is the part of the process where you find your car – if you don’t already have one. Buying your project car well will depend on your goals for the restoration.

This is the first step, depending on what you want to do. Are you hoping to end up with a pretty little car to drive on the weekends or on date night? Do you want this to be your primary transportation? Are you hoping to build an award-winning show car?

What you want to end up with will help you determine what to look for from the start. You can potentially find some extremely good deals if you look for cars someone else started for a restoration project and then abandoned. Maybe they got in over their head. Maybe they lost interest. Maybe their wife (or husband – hey, there are some very talented classic VW owners out there who work on their own projects) gave the ultimatum, “Get that car out of my garage or…”

Whatever, you may be able to pick up a gem that’s already got some of the work done. Of course, you need to be a little careful because you don’t know what they did, whether they knew what they were doing, and whether all the parts are there.

But if you find a running and driving car that seems to be working and doesn’t have a ton of rust, you may be able to get a good project. Or you can spend less on a car that’s been sitting somewhere all neglected and rusty.

My preference for a restoration project is starting with a good, running, driving car that’s mostly complete. Always test drive and have a qualified mechanic test it before you buy. The investment is minimal, maybe $65-125 for a thorough inspection.

Start with a solid core because you’ll likely face fewer problems and have an overall, easier build. If you’re limited in knowledge and experience, that’s a good thing.

Where to Find a Great VW Project Car

I’d recommend checking your local newspaper, Craigslist, and TheSamba.com. You may also have good results by asking around in VW enthusiast groups on Facebook. If you can’t find anything good, you can contact me at Spook@AirkooledKustoms.com and my shop can source a car for you for a fee. We do that all the time.

We’ve found that autumn and winter are the best times for getting good cars at good prices. People are cleaning out their garages, maybe looking for extra money for the
holidays, and possibly catching flak for how long their project’s been taking up space and not moving forward.

Funny thing is that they’re not thinking about the spring, when most people end up wishing they had their Volkswagen back (or finished).

A few tips:

• Once you find the car, it helps to have a VW person with you who’s familiar with that model and year or at least with VW’s in general.
• Try to get any records from the car owner that are available. Ask about receipt binders, any original paperwork (a bonus), and spare parts that may be laying around.
• Always put your core care on a trailer rather than driving it home. You’re not familiar with the car and its quirks. There will be issues unless it’s in pristine condition… in which case you don’t need to do a restoration
• If you put it in your garage and start working, you might look into classic car insurance for cars under restoration. Check with your local agent, but we recommend Hagerty or Grundy. You may or may not need to register with the DMV – check with your state.
• Some states require you to file a title. Get all your appropriate legal paperwork for your state.

**Step 2 – Disassemble, Tag, Bag, and Inventory**
Commence wrenching. Now you’ve got to take that Beetle apart. Penetrating oil is your new best friend, as those nuts and bolts have likely had a few decades to become rather attached to the body and won’t always come off easily. If something’s stuck, don’t force it – soak it in penetrating oil overnight.

In this step, you’ll probably discover a lot about your Beetle's past life. You’ll find where a prior owner took 'interesting' measures to repair or restore the car. You'll discover innovative replacement parts that should probably never have been used. You'll find places where the Dub had close encounters with curbs, trees, poles, and all sorts of immovable objects. You'll probably discover why Bondo is considered profanity at our shop – it might hide a multitude of sins, but it does so only as a really bad Band-Aid. We once even discovered someone had tried using concrete as a body repair material. Hopefully you don’t find anything like that as you disassemble your Beetle.
Here’s a very useful tip: Build a pair of tall, wide sawhorses that your Beetle can sit on top of – the pan can go underneath. Build them wide and tall enough to clear the wheels on the Beetle. This is the next best thing to having a lift like we’ve got in the shop, and will give you easier access as you work.

The disassembly step gives you your first real opportunity to assess your vehicle and start your list of parts that need replacing. You’ll be taking notes on what you’ve got on hand so you don’t double-buy or forget to buy what you need.

Take that Beetle apart. Use screwdrivers, wrenches, and whatever other mechanic’s tools you need. We recommend getting a standard, all metric set of mechanic’s tools, both for the project at hand and for the ongoing maintenance and repairs you’ll need to do to keep your Dub running well. You’ll find you’ll get the most use of your 13mm followed by the 10mm wrenches and sockets.

Be systematic in your disassembly. It’s best if you’ve got lots of space to work with in your garage so you don’t lose pieces and parts as you go. Even better if you’re the only one using that space so you’re not always getting yelled at about the piles of pieces and parts you’re about to start stacking up all over the place.

Here’s a good order to follow as you disassemble the body:

1. Take first door off and break it down as far as it goes.….  
   • Window glass  
   • Regulators  
   • Door latch  
   • Check rods  
   • Lock mechanism  
   • Door stop  
   • Any aftermarket crappy speakers someone put in  
   • Handle  
   • Mirror  
   • Quarter window

2. Then go at the body panels.
3. Next, separate the body from the pan. This will give you access to the heater channels and lower quarters.

4. Time to work on disassembly of your wiring – maybe. If you’re changing to a new harness, which is almost always necessary, save this step until the end of the
project. If you’re keeping the wiring harness as is because it’s in good shape, put all loose ends into a plastic bag, tie it up, and label the bag. If you don’t label, you are guaranteed to end up asking, “What is this blue wire with a red stripe on it?”

5. Your engine is next. You can leave it on the chassis attached to transmission or take it off and store it until you’re ready to deal with it.

Leave your tires on if you want to roll the chassis around. If you have a Super, you’ll also need a set of wheel dollies so that you can move it around.

So, how long will disassembly take?
A professional restoration shop typically schedules about 13 hours for this step. For you, it might take a couple of full weekends.

Tips:
• Don’t try to pull the body off of the chassis by yourself. It’s heavy. You risk getting crushed. Schedule this for a time when you can enlist the help of some friends. Pizza and beer are a lot cheaper than traction and rehab.
• Be meticulous about tagging, bagging, and labeling.
• Keep a running log of the nuts and bolts you take off, where they came from, in which order, and any that are missing. It will seem silly at the time, like it’s an exercise in being completely anal retentive – but do it anyway. If you take apart a door, bag those nuts and bolts with it. It will be tempting to put all those bits into a coffee can, but if you do that, how do you know what you need and where it came from?
• Label accurately.
• Better to take the nuts and bolts bagging as small scale as you can. The more bags you go through, the better. Go micro with this: window regulator attachment bolts, lock mechanism and hardware, striker plate and screws – that’s much better than throwing it all into one bag that says “Door”. Of course, you can put smaller component bags into one bigger bag – just label everything.
• Ditch the butane torch and get map gas.

Step 3 – Strip, Then Seal
The good news is you won’t need a roll of singles… the bad news is, you’ll need much more.

This step is about removing the multiple years’ worth of paint found on most Bugs. Stripping is not necessarily required. If the conditions are right and you’re painting over
original factory paint after doing your repairs, and if it’s a good paint job to start with, you may not need to strip it. But if there are problems under the paint, dents you want to repair, welding that’s needed, and especially if there’s rust, you’ll want to take your car’s body back to bare metal so you know what you’re working on. That’s the only way you can be sure you don’t miss problems that got hidden under layers of paint or Bondo.

You’ve got two options here. You can send your Beetle out to blast, or you can strip it yourself. Let’s look at these choices.

If you send it out to blast, this means you either haul your Beetle to a sandblasting shop or they come and get it. You can do individual pieces to get it done gradually, or do it all at once.

The other option is doing it yourself with chemicals. We really don’t recommend chemical stripping. The process is involved and you’ve got to neutralize the residual acids or you’ll have serious adhesion problems once you begin the sealer and paint process.

Oh yes. There’s a third option. You can sand your Beetle by hand. Hand sanding will take a couple hundred hours, unless you are super aggressive, but then you can easily damage the body or burn through the metal. If you choose this method, be prepared to stock up on face masks and sandpaper. Also, this might be a good time to plan to rob a bank, because you will have no fingerprints left.

Blast might run you $300-$900 depending on your local market and the demand for this service. You can find blast shops online by Googling them, and reading any reviews posted about the shop. You can also ask for recommendations in forums and at local automotive paint shops. If there’s a powder coater in your town, they may do blast work, too.

**Seal that Bug**
You’ll find throughout your restoration project that you’ve got some good stopping places and some that are really bad places to pause the process. This is one of those bad places. Once you’ve got your Beetle stripped down to bare metal, you’ve got to get it sealed immediately. Otherwise, you can almost watch the body rust right before your eyes.

So, while it’s off at blast, you’ve got two jobs to do:

1. Get a painter lined up to seal the body as soon as it’s back from blast.
2. Work on getting all those replacement parts on the list you made during disassembly.

**Who can seal your Bug?**

You’ve got options. The shop that does your blast may be able to seal your body for you. That would be the fastest and easiest way to get it done.

Otherwise, you’ll need to do some looking to find someone to seal it. A couple of resourceful solutions:

- See if your local high school, trade school, or college has an autobody class. Word of caution, as with any learning environment, students will make mistakes – that’s what they’re there to do; and it will take longer to get done. But on the plus side, it will cost less money to get it done.
- Check with local military bases to see if they’ve got shop space to rent, if you want to seal it yourself.

Whatever you do, don’t seal or paint your car in your garage. You’ll piss off your neighbors and possibly blow up your house and yourself, too – definitely not what we’d call a successful restoration project.

**What about sealer?**

The whole goal of sealer is to protect the metal from rust. It’s an epoxy, a surface protector that will keep the metal intact as you work on the rest of your project before you paint it. Sealing your car body is not hard; you just need proper facilities and tools to do it safely. You will probably have runs and sags to fix later, but you can do this.

Oh yes, do not use spray paint! A good guideline: If the can rattles, it doesn’t belong on your car.

OK, those are the first three crucial steps in your restoration project. There’s a lot more to be done, and you’re going to learn a lot along the way. In fact, you should be prepared to do a ton of research for every phase of your restoration. We’ve done a lot of restorations, and we still learn more with every project.

A few parting tips:

- Your restoration project will take as long as it takes. If you put off what you need to do, it will take longer. Your Beetle won’t magically move along in the
process without you actively working on it. Maybe a little trick I used will help you get over the hump when you get stuck or burned out (and you will, at some point). When I was an amateur, building my '69, I would sometimes just get sick and tired of the project – it wasn’t going as fast as I’d like, even though I’d already built the car in my head. “Why isn’t it done yet?” I required myself to put in a certain amount of time per week, no matter what. This helped keep the project moving forward rather than just becoming a half-done pile of junk taking up room in my garage.

- You could get great results from your restoration, or it could look like ass. Sorry, there’s no better way to put it, and there’s no guarantee that all the hard work, time, and money you put into this project will result in a Beetle that turns heads. However, you’ll learn a lot and it can be a very enjoyable project.
- Be safe. You’d probably prefer to avoid getting yourself killed by your project (always nice, right?). Learn, understand, and follow shop safety procedures so you avoid making crucial errors that could result in your engine blowing up in your face or catching your garage on fire or other rather significant setbacks to your project.
- You might want to have a specialty shop inspect your work to help ensure you don’t have mechanical failures. For example, if you make errors in building your suspension, you will have unintended excitement as you drive. If you mess up your brake job, you’re likely to have sudden meet-ups with sedentary objects. If you don’t do a thorough job restoring your pan, you’ll go Fred Flintstone and risk carbon monoxide poisoning as you drive.
- Be prepared to break stuff, screw stuff up, and face mysterious problems you feel like you’ll never figure out. Even the pros get stumped sometimes. We get cut, burned, bruised, crushed, and frustrated. There is always a blood sacrifice required of every restoration we do – you won’t escape unmarked.

This restoration has all the potential to be one of the most satisfying projects you’ve ever taken on. For the krew at Airkooled Kustoms, it’s a kind of zen-like experience (well, at certain points in the project, anyway). For us, it’s the perfect mix between precision engineering and creativity – a kinetic art form.

We hope you’ve found this report helpful. We’d love to see pics of your build, to hear about your progress, and to have you out to the shop for a visit. If we can help you with your project, give us a call at (256) 828-2123 or contact us online through www.AirkooledKustoms.com
That's Mojoe on the front page. Mojoe is a 1971 Super Airkooled Kustoms recently finished a complete custom restoration on. You can see more pics of the build by visiting www.airkooledkustoms.com/projects