



**So You Want to Fix Up
That Dirty Old Car in
the garage
*(that your wife hates so much)***

by David Grainger

First published in 2007 by
Avions Voisin Publishing
44 Bridge St
PO Box 1150
Bradford, ON
Canada
L3Z 2B5

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David Grainger is the owner of The Guild of Automotive Restorers near Toronto Canada. The Guild is one of North America's largest classic and antique automobile restoration facilities and boasts a world wide reputation and clientele. Amongst David's accomplishments at the

Guild has been the restoration of many very significant automobiles like Bugatti Grand Prix cars of the 30s to the designing and creation of special custom cars costing five hundred thousand dollars or in some cases more.

David is also an avid collector of cars with an affection for exotics such as Lotus, Ferraris and Vipers as well as some of the great classic Pre War French cars. He is a pilot with two aircraft, one of which is a 1930s biplane and as an additional sin owns, fixes a lot and operates classic mahogany boats, most notably a boat once owned by Hap Hazard and raced by Charles Lindberg.

David's first book was a factual accounting of North America's endangered species and he has written screen plays and numerous magazine articles.

He has also been a weekly columnist for the Globe and Mail and is currently with the National Post for a return engagement as a weekly columnist.

He lives alongside a river north of Toronto, Ontario with his wife Janice, two very large Irish Wolfhounds, a three legged Borzoi, a mutt, three cats, four draft horses and 2 miniature donkeys.

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In the Beginning

Biography

So how did a professional artist who has also been a Zookeeper, commercial diver, special effects unit (film) guy, film producer, and published author end up writing a column on car restoration as well as owning a large restoration shop?

Throughout my many and varied pursuits there has always been one thread that ran consistently and that was a love of old and unusual vehicles. During the fifteen years I spent as a professional artist I used to, at the end of the day and with the loss of natural light, relax by going outside and banging and thumping on old military vehicles. I started out using an old Dodge M-37 weapons carrier as my primary transport both on and off the road and the

tight budgetary requirements brought about by being a starving artist dictated that I learn how to repair vehicles myself.

As my fortunes increased as an artist and author I found my hobby growing until my backyard was better stocked than a Canadian Military Base. I found this very relaxing but there was one small part of the hobby that I started to find a little disturbing. Whenever I

went out in my vehicles I always made sure that I appeared as un-military as possible, dressed usually in blue jeans and a red shirt. Others in the hobby were not so inclined and I found myself surrounded with individuals who dressed as if they were about to enter the jungles of Vietnam and often pulled loaded and operational weapons from their under their flack jackets.

Time for a Hobby Change

When the O.P.P came by my house one night to ask if I might know the individual who was spotted running down the main street of a local town dressed in full combat gear and waving a machete while he yelled "Kill the Cong, kill the Cong." I thought that it might be time for a change in hobby. (No, I didn't know him).

Shortly after this I became involved in the film industry which was a

whole different aggravation although I did have some fun blowing things up and making walking corpses. (Among some of the things that I blew up, were a couple of notable actors although they did not become walking corpses).

By this time I had restored everything from M-38 Jeeps to Tanks and I was getting fairly bored of green anyway so I started messing about with some old cars that came out of a

barn. Two of my favourites were a 1941 Cadillac and a 1949 Triumph which had a rumble seat with its own windshield. So now I had been bitten, but I have to admit, I was far too busy for it to have developed into a passion.



Janice



At this point Janice stepped to my life. Here was a woman who on our first real date and dressed in high heels and miniskirt ended up underneath my

Toyota Landcruiser trying to dig it out of the mud while I went to get another truck with a winch. (Long story about what we were doing in the middle of a farm field in the middle of the winter, but I swear it was absolutely innocent). When I got back she had almost dug it out and was disappointed that I had arrived before she had extricated it. She had wanted to meet me on the road driving it as I walked

for help. From there on it was true love. During our first year together I introduced her to the Barrie Automotive Flea Market. I was used to girlfriends who waited impatiently at the end of each aisle as I made a mad dash up and down seeing what I could see before having to go. I wasn't used to being with a girl who spent more time than me rummaging through the junk.

She took one look, fell in love, turned and said "We can fix it up."

And so began the Guild

It is a story all on it's own but it began with a long line of cars which got older and older and harder and harder to repair. Initially we were buying cars, fixing them up and selling them on a part time basis but it was 1991 and I saw a new recession looming on the horizon. As an artist I had driven into the early eighties recession in a big Mercedes and out the other end in a rusty Volkswagen. I really didn't fancy doing that again so

we decided to, (you figure it out), start restoring cars for a living. Now there is a recession proof activity! As it turned out, it was. We started the Guild of Automotive Restorers back about fifteen years ago and we really haven't looked back since.

In those fifteen years both Janice and I have had the opportunity to meet people from all walks of life, from the President of the Ford Motor Company to George Barris. We

have restored cars ranging from Auburns and Packards to a Batmobile and a 50's Concept car. We have had some great highs and some very deep lows. Along with the sincere hobbyists and car nuts we have run into the comen and creeps, and we have done well and done poorly. Overall it has been entirely satisfying and stimulating and promises to continue so for quite some time to come.



The First Lesson in Restoration

So what do I write about? If you read my columns in the National Post or Old Autos you know that I am just as likely to write about my screw ups as I am about my victories. That is because there are far more lessons to be learned from a screw up

than there are from a perfectly turned out job. The fact that I can offer some advice regarding the restoration of old cars is because I have been there. I have a well earned and deep seated mistrust of old cars as much as I like them and I never

really believe that they are going to get me where I am going. In restoration this is the first lesson that should be learned; if you don't know never offer advice and admit that you don't know.



And on to the Restoration...

There will usually be somebody who can help waiting with just the right answers. If I can provide the answers sometimes or get help by talking about problems and solutions then that is really handy. The simple fact that I am the decision maker on dozens of projects all in progress at the same time gives me a great insight into the workings of Murphy's Law and all of its amendments. Experience is the sum total of things that have gone wrong and if my experience can help you with your own project then that is the most satisfying feeling.



So you've acquired an old car.....



Buying a Car

When I am asked to give advice on a car purchase for a client, I rank the mechanical condition of the car behind body and chassis simply because of the expense of repairing the body of

Too often many of us are willing to purchase a car that JUST NEEDS A PAINT JOB and yet may pass a car over because the engine sounds a little ragged. Take my word for it, unless the car that you want to purchase is a Rolls Royce, chances are the rust work, chassis repairs, prep and paint will far outstrip the cost of

mechanical repairs on a lot of cars. This is not to say that mechanical repairs are cheap. They are not. But you can often purchase a car that sounds rough or runs badly which may not need all that much work to render it perfectly useable. It's what you know and can diagnose rather than what the seller may tell you.



1940 Mercury Before



1940 Mercury After

Now the warnings.....

Barn Finds

A car that has sat unused for three years will almost always need brakes including master cylinder rebuild, wheel cylinder rebuilds or replacement, all new lines and usually new shoes or discs if so equipped. The seals in the motor are likely to leak and should be replaced as a matter of course and you will probably have to rebuild the carburetor. You will usually find that lots of other small and often irritating things occur such as lazy or

intermittent power windows, light switches etc. Belts will often need a close examination before you can trust them. You should also try to find out why the car was put away. An lot of cars are put in barns and garages because they are not fit for the road. Contrary to popular belief, they rarely heal during a stay in a barn. Cars that have sat for longer periods should be torn down mechanically,

checked and rebuilt if needed, before they should be trusted on the road. Of course anything that has sat in a barn, shed or garage for any length of time should be checked for rodent damage and this will mean a careful sniff inside. Mouse urine doesn't need to be described, if the car smells really bad inside, it is probably mouse urine and unless you want to replace the interior, walk away from the car.

Check out the owner

You can't get rid of it, you can only, make it worse by layering equally foul smelling air fresheners over the original stink. It doesn't work and I think that on a hot day it can actually kill you. If it doesn't, you can be sure that the 'lady in your life' will if you make her sit in it.

Barn finds are neat, I enjoy making them myself, but having found at least fifty cars in barns, I learned long ago that they are inevitably a lot

more work and expense than they may appear.

Cars for sale at the local cruise night or neighborhood driveway.

Check out the owner. If he enjoys impressing the Cruise night crowd by doing brake burn outs to show just what lousy traction bias-plys actually have, chances are the car will need a lot work.

Abuse is often a difficult condition to diagnose because the parts are not

worn out, they are stressed out, and this often does not become apparent until they break. If you suspect a squirrel may have been driving the car that you want to buy, get in and gently put it into forward and reverse a few times. If you can hear the driveline moving around under the car and clunking a lot before the car moves, you could have transmission, rear end and or universal problems.

Try to get the car to at lease sixty miles per hour so that you can feel the harmonics of the car."

Listen and feel the car at different speeds

While the car is moving listen for any unusual mechanical sounds. Drive the car slowly; keeping noise levels low so that you can hear things that shouldn't be heard from a healthy car.

Ease your speed up slowly, listening and feeling the car at different speeds. Try to get the car to at least sixty miles per hour so that you can feel the harmonics of the car. Wheel balance and alignment problems often

manifest themselves at speeds approaching or just past sixty. If it feels uncomfortable at those speeds and makes noise, wanders more than the bias-plys can account for, or has other bad habits it may be a good idea to take a pass. During this examination you will have to bear in mind the age of the car. Forties and early fifties cars can do these speeds but rarely feel comfortable doing it. Older cars from the twenties and

thirties reach their optimum speeds much lower, but driveline problems will manifest themselves at lower speeds. Listen to the engine carefully. Misses and clanking coming from the top of the motor may just indicate that the car needs a tune up or valve adjustment, but if you can hear anything that seems to be coming from the bottom of the motor, you should be ready to do major work if you purchase the car.

Radiator



Look at the radiator to see if it has wet spots or shows damage or old repairs.

Open the cap and see if it is full of sludge, and try to have the car run for long

enough to determine if it is heating up and if the engine feels unnaturally hot. This will indicate cooling problems. Don't dismiss cooling problems because even though the

radiators on most cars are fairly inexpensive to repair, cooling problems if they have been left for a long time can cause huge amounts of damage to the engine.

Check the heater core

If you are satisfied with the major components of the car, check all the small things like windshield wipers, door handles, locks and other minor equipment.

Don't gloss over this stuff because as a whole it can get very expensive to repair and a lot of the minor parts such as washer motors and reservoirs, wiper arms and motors, heater fans and interior controls can be very difficult to find and purchase, if they are available at all.

You should also check to see if the heater core is leaking in the interior. Coolant stains under the

core are a dead giveaway. If you can't see any stains but the car fills with a sweet smell as it is being driven, the heater core is leaking.

The last indicator is that the windows steam up when the car is parked after running or when it is being driven and is warm.

As a matter of fact, the defroster will sometimes spray drops of coolant all over the windows as you turn it on high to clear the mist which of course it won't do anyway as it is the cause of the mist.

If you do smell that sweetness, park the car as soon as possible.

Do not ignore it as that sickly sweet smell of

atomized coolant is also poisonous.

The front end components are sometimes quite difficult to check unless you can jack the car up and even then you have to know what you are doing to properly diagnose front end problems.

You should get down and have a careful look at the various components of the front suspension and steering. Check for bent bars and other visible damage. Take a careful look at ball joints and steering arms. See if they look dry or are covered in old dirty and sand filled grease which is often actually very abrasive.



1965-68
Mustang Heater Core

Bring a mechanic with you

Look for any areas that have wear marks on them that common sense would dictate do not belong. Areas on the frame for instance, showing marks left by wheels rubbing or steering components striking them should be looked for. Inspect attaching points to see if they appear loose or show wear from the parts moving when they should not.

Look at the steering box and check it to see if it has leaked out all of its lubricant. A heavy crust of dirt built up on it will

usually indicate that it has been leaking and may be empty and worn.

Inspecting a car to determine its mechanical condition is largely common sense.

If, after your inspection you are not comfortable with the car but still want it, express your concerns to a professional and see if you can hire a good mechanic to accompany you to a second inspection.

If the owner of the car objects to a second inspection or tries to talk you out of it, do not buy

the car unless you don't care that it may cost you a small fortune to put it right. The long and the short of the whole process of buying a car is that you should buy the best car that you can find.

Always remember that a perfect car needing no work for fifteen thousand dollars will often cost you a lot less money than a car needing a few things for sixty five hundred.

“If the owner of the car objects to a second inspection or tries to talk you out of it, don't buy the car.”

Preliminary Tasks

“There is a checklist of things that you should do before you strip the car down.”

Mechanical bills can add up very quickly, and parts prices have risen astronomically in the last few years. Availability of parts is also becoming more difficult as they are either used up or lost to the smelters.

Be warned. It really is a case of ‘buyer- beware’, and if you let love overpower common sense, the love affair may

be very short lived indeed. Before you go at a car like a bull in a china shop, there are a lot of little things you should do. I realize that it is very satisfying to be able to brag about how you stripped the old car down to her frame rails in one afternoon, but it is likely that if you took it apart that quickly it will be a lot longer before it ever resembles a car again.

There is a checklist of things that you should do before you strip the car down. These preliminary tasks will give you a far better idea of where you’re going and what you have to do. It will also put you in the habit of writing things down and building a set of notes which will be invaluable down the line.

First things first

The first thing that you should examine in minute detail is the fit of the car. This entails a thorough examination of how all of the various parts of the vehicle align with one another. This is critical to the reassembly process and will save you some of the worst headaches that you can encounter during a restoration.

With postwar cars this process is fairly easy. Basically you just walk

around the car and check every seam and fit over the whole car. Look for the way the doors fit and whether their seams are even front to back and top to bottom.

Check the cowl against the hood and the hood against the fenders and at the back of the car check the trunk alignment and the positioning of the rear quarters.

Closely inspect the way chrome grills and bumpers

etc. fit and whether the gaps around them are even. If they are not even then the chances are that the vehicle has been either in an accident or has frame and structural problems.

If you detect sagging in all the openings, for example where the doors are tight on the top and wide at the bottom, then chances are you have frame and structural problems.

Postwar, English & European Cars

“English and European cars rocker assemblies are a very important structural component of the car and work in conjunction with the frame to give the car its required stiffness.”

Different cars have different tendencies that show as they age. The first is postwar American, and the previous inspection covers them.

Of course common sense dictates that you also look for rust damage to floors and frame etc., but that

will be repaired during a restoration. Structural problems are sometimes not noted until much later and usually when you’re trying to fit finished and painted panels.

The second grouping is the English and European cars. Many of those are

either uni-body or have a body designed in such a way that their rocker assemblies are a very important structural component of the car and work in conjunction with the frame to give the car its required stiffness.

Research before you Buy

If you are taking the plunge into the hobby and have reached the stage where you are getting ready to make your purchase, there are a lot of things you should know before you blow the wad. Once you have figured out what kind of car you want to buy, you are going to have to do a little research.

It is always a good idea to determine what a car's weak points are, whether those weak points are original design flaws or regular abuses that some cars such as Corvettes are subject to by their owners, i.e. continuous jack rabbiting, excessive braking etc.

In most cases a seller is not about to offer up a list of things that are wrong with the car unless he is trying to cover up a large flaw by admitting to a few

small ones. This leaves the responsibility for determining the car's fitness to you. If you know nothing about mechanics and body, you can get council from a professional in the field like a mechanic or dealer, but beware the well intentioned friend.

I have seen situations where friends advice to prospective buyers has encouraged their purchase of a very bad car and indeed the reverse, where a really good car has been passed over because the friend was more interested in showing off just how much expertise they had rather than being objective about the car.

You also have to be aware that not every body who works with cars has the expertise to help you select a classic. Joe down

the road who services your Honda may be just great, but what does he actually know about a 59 Oldsmobile or a 34 Buick? In that situation he may be just as lost in the wilderness as you. He may never have even seen under the hood of one of these cars never mind knowing about carrier bearings on the drive line, torque tubes, or cast exhaust manifolds with expansion joints that are prone to seizing and cracking. You may end up putting Joe in a very bad position, especially if you are paying him to make the call. If he calls it wrong, and it costs you a ton of money, you might lose a guy who is great at fixing your Honda, and he might lose a good and valued customer.



Bring a mechanic with you.

A Pro Takes a Look

If a seller is willing and you have a reputable antique car dealer or restoration shop near you, it is best to take the car to where it can be properly inspected. If that is not possible, then you are going to have to

rely on yourself and your own common sense. Never let your excitement about a car blind you to its warts. Always remember that there are lots of other cars out there.

Checking the Body

The first thing to look at is the body and paint. Walk around the car and look at all of the door, trunk and hood fits. Let your eyes track down each crack, making sure it is even and that there is no pinching or opening of the gaps. They should also be even all around the car. The gaps on both sides of the hood or on the left and right front doors should be the same. If this is not the case then they could be telling you that the car may have been in an accident which has been inexpertly repaired, or that it has been through a poor restoration and might be an indicator of many more problems under the surface.

“Let your eyes track down each crack, making sure it is even and that there is no pinching or opening of the gaps. They should also be even all around the car.”