Thinking of buying a post-war Riley?
From David Pettican.

If this is your first venture into RM Riley’s a good place to find some basic background into them is [here](http://rmriley.zz.mu/rmhistory/rms.htm).  RMs was made with a choice of two engine sizes, 1½ litre and 2½ litre and both have four cylinders.  Almost all 1½ litre cars were made with saloon bodies (RMA and RME) while 2½ litre cars were made in both saloon (RMB and RMF) and open car forms (RMC and RMD).  Most cars were made as right hand drive but some were made for the export market as left hand drive.  Saloon cars were made in far greater numbers than open cars and it is not uncommon to find saloon cars which have been converted into open cars.  Compared to other marques production numbers were quite low as follows.

 RMA (1945 to 1951)                10,594

RME (1952 to 1955)                3,446

 RMB (1946 to 1951)                6,900

RMC (1949 to 1952)                507

RMD (1948 to 1951)                502

RMF (1952 to 1953)                1,050

 A quick Internet search will yield hundreds of pictures of RMs covering all types.  Look through these and find the type which you like.  Remember that open cars will be much more expensive to buy than saloon versions.

 None of these cars were made with power brakes or steering so expect them to be heavy to drive particularly at low speeds such as when parking.

 All models are heavy with the 1½ litre cars weighing 26 cwt and the 2½ litre cars weighing 29¾ cwt although the RMC is a little lighter at 26½ cwt.  As a result fuel consumption is quite high and varies a lot depending on driving conditions and how hard the car is driven.  As a rough guide a 1½ litre car will give about 25 to 30 mpg and a 2½ litre car will give about 18 to 23 mpg.  Long periods in heavy traffic may worsen these figures while gentle long distance driving may improve them.

 All models are a joy to drive with good handling and braking.  Arguably the 1½ litre cars are little under powered but they cruise happily all day at 60 mph and will run up to over 70mph if needed.  The lack of power shows most when overtaking at around 40 mph.  You drop down into 3rd. gear, pull out to pass the car in front and accelerate.  As you pass the car you reach 45 mph run out of revs. in 3rd. and have to change up into top gear with a noticeable drop in acceleration. As a result the overtaking manoeuvre takes longer than you anticipated.  In contrast the 2½ litre cars will run up to 60 mph in 3rd. gear and will just fly past the car in front.  In compensation the 1½ litre cars win out on tight twisty roads as they are better balanced. The 2½ litre cars are prone to under steer and need to be driven round tight bends but there is plenty of power available to do this.

 Having decided on the model you would like and found one for sale it is time to have a look at it.  At this stage the best advice is to take a friend with you who is familiar with that model and ask them to point out any problems they see and to curb your natural enthusiasm to buy. Next look at the person who is selling it.  Are they a trade dealer, a private seller who buys and seller’s cars regularly, a private seller who bought it recently and now wants to get rid of it or are they a long term owner with a good reason to sell it now?  Check if they are a member of one of the Riley Clubs.  Beware of the get rich quick seller.  Over the years many cars have been offered for sale which look good but have problems underneath.

 Restorations which have been abandoned due to lack of time or money can be excellent value for money or a real money pit.  It all depends on what has been done and how well it has been done.  An engine which is said to have been rebuilt and is ready to run can be a gamble and the only way to be sure that the work has been done properly is to strip it down and check.  Half rebuilt body work can be even worse.  Correcting someone’s mistakes is not enjoyable.  However, if the work has been done properly there are bargains to be had.

 Having decided that the seller is not a rogue the time has come to have a good look at the car.  If it is in a garage or other tight area gets it driven out so that you can look at it from a distance, the other side of the road is fine.  From that distance look at the side of the car.  Does it have a tail down appearance? It should be straight and level.  If it looks tail down and the rear wheels do not sit centrally inside the wings it may be that the rear springs are sagging.  It may also be that the rear body mounts have given way.  To check this have a look at the back of the car at the way the bumper/over rider supports come through the round holes in the body work.  They should be in the centre of the holes.  If they are at the top of the holes then the body mounts in the boot have failed.

 While looking at the side of the car, are the gaps between the doors and body even?  Look particularly at the top leading edge of the front door.  If there is a large gap here and the bottom leading edge of the door is hanging outside the body then there is a woodwork problem around the sill and bottom of the door pillar.  Also check that the chrome strips line up along the doors and body.

 For more information on the above two problems look [here](http://rmriley.zz.mu/rmbody/Body-Mounts.htm).

 Look where the rear wings and the running boards join the body.  Are they tight together with wing piping in good condition? Has the wing piping been painted over? If it has the car has been repainted without the wings being removed so the parts you cannot see may be well rusted.

 Moving to the front wing, lift it gently near the side light.  It should be firm and not lift without moving the rest of the car.  If it is loose and moves up easily the support member under the wing has broken (rusted) away.  There may be tell tale signs of rust spots behind the head light cowl and on the side of the wing.  If there are no such tell tales showing suspect that they have been filled over and sprayed in to hide them.

 Next examine the roof.  Is the covering in good condition with all the seams properly stitched?  In the past replacement roof kits have been sold with welded seams and these have often been made from the wrong material, cheap furniture covering which stretches having been used.  These balloon up as the car goes along.  Also check that the rain guttering fits properly and does not gap away from the rest of the roof.  Now for the crunch test, press firmly on the roof covering just behind the trafficator.  Is it firm or does it move possibly with a crunching sound?  If it moves then there is a problem with the steel mesh and probably the supporting wood.  Continue pressing around the bottom of the roof all the way to and around the rear window checking that it is firm.  Any softness means a problem beneath the surface which will need attention.  For information of these problems and what is involved in recovering a roof look [here](http://rmriley.zz.mu/rmroof/rmroof.htm)

 Check the main door panels a few inches below the chrome trim for any sign a line if rust bubbles.  Behind the panel is a wooden support with has felt between it and the steel panel.  Rain water leaks down past the window seals into this felt causing the steel panel to rust from the inside.

 Check that the doors open and close cleanly without rubbing the body frame.  Check the door bottoms for signs of rust, rotten wood or nails which are pulling out.  With the doors open look at the wooden sills which run the full length of the floor.  Check that the wood is sound and that the sill is not twisted downwards near the door pillar.

 Look at both the front and the back of the car from a distance.  Does it sit squarely on the road?  Remember that the road may have a camber so allow for this in your assessment.  Are the bumpers straight and even?  Out of line bumpers may be due to crash damage.

 Look also at the shape of the front wings from the front.  Are they both the same or does one look a bit flatter than the other?  A wing which has been knocked out following crash damage is unlikely to be the exactly same shape as the other undamaged one.

 How do the bonnet tops fit?  Do they have equal gaps or are they twisted out of line?  RMs have long bonnets and it is not always easy to see what is coming from the right when pulling out of a side turning.  Many RMs will have had bangs on the offside front wing at some time in their life which can push the body out of line.

 Check the condition of the paint work and the chrome.  Remember that a “blow over” paint job is cheap and can hide a multitude of sins.

 Look inside the car.  What is the condition of the leather?  Are the seats sagging badly with the stitches giving way or is the leather torn?  What condition is the carpet in?  If it looks new make sure you lift it and see what lurks beneath.  There may be a reason why it has just been replaced.  Check the roof head lining particularly around the rear window looking for signs of damp.  The interior door panels should also be checked for signs of damp particularly near the bottom.  Sit inside the car with the doors closed and check that the doors are fitting properly.  Check that the door lock striker plates on the body of the car are tightly screwed to the body and do not move at all.  Loose striker plates for the front doors can let the doors fly open at speed.  If the striker plates cannot be tightened with the mounting screws then the wood behind them is rotten.

 Sit in the driver’s seat and see if is comfortable.  Does it lean back too far?  If it does then the welds which hold the back of the seat to the main frame are breaking up.  Does the brake pedal feel firm without any sponge?  Does it stop well short of the floor boards?  Press the brake pedal down gently and keep the gently pressure applied for a while.  Does the pedal slowly creep down?  If it does the recuperation seal in the master cylinder needs renewing.  Does the hand brake need to be pulled up a long way?  Is there any play in the steering?  There should be none at all at the wheel.  Does the steering wheel have cracks in the plastic where the spokes join the rim?  Later wheels with flat rectangular section spokes are weak in this area and can break up.  Earlier wheels with round section spokes are stronger.  Where is the fore and aft adjuster for the driver’s seat?  It should be on the right hand side near the door.  If it is on the left hand side near the centre of the car the seats have probably been swapped over due to problems with the driver’s seat.  Check that the lights work properly and remember that there are no fuses in the lighting circuits.  If you are happy with the inside go around the back and lift the boot lid.  Make sure the safety prop locks in place.  You don't want it falling on your head!

 First look at the rubber seal around the boot.  On early cars this was solid rubber but on later cars sponge rubber was used which held the water and causes extensive rusting.  Inside the boot have a good sniff for damp.  Just behind and inboard of the wheel arches you will find two bolt heads stick up through the boot floor.  These hold the rear body mountings and are very rust prone.  It is quite common to find welded repairs around them or even that a new boot floor has been fitted.  Look and feel all around the rest of the boot, the spare wheel compartment and the number plate panel for rust.

 It is now time to get down and dirty.  Lie on the ground and look under the back of the front wing where it meets the running board.  Just in front of this join, on the main body you will see the bottom of the wooden windscreen pillar.  It gets continually soaked by water thrown up by the front wheel so give it a good hard poke to check for rot.  New wooden pillars are available or alternatively you could consider the method described [here](http://rmriley.zz.mu/aposts/aposts.htm) if you should need to replace the pillar later.  Now look a little further back at the wooden floor sill.  Again give it a poke in several places to check for rot.  Also have a general look around for overall condition underneath.  Is it clean or covered with muck and oil soaked.  Go to the other side of the car and repeat the process.

 While you are looking under the left hand running board check the exhaust system.  Is it made from mild steel or stainless steel?  Stainless steel is much better.

 RM chassis are thick and rust is not usually a problem except possible in the bottom of the front suspension U cradle.  Look carefully at the bottom below where the torsion bars come through the cradle.  Most cars have a large hole in the front of the cradle where the steering column would pass for a left hand drive car.  Water can get into the cradle through this hole and it then lies in the bottom of the cradle collecting mainly in the depressions below the torsion bars.  Eventually it rusts right through.  The wise owner will have covered this hole with a patch to keep the water out.  Give the car a bonus mark if this has been done.

 While you are under the front of the car check the condition of the rubber gaiters (bellows) in the steering rack.  Pull them about a bit and check for splits and tears.  Grab hold of the double eye assembly where the two track rods attach to the rack and give it a good backwards and forwards shake.  Expect a little free play here but excessive movement indicates the need for a steering rack overhaul.  While you are looking at the steering get someone to turn the steering wheel from side to side.  Look for movement (wear) in the track rod ends.  Assuming the track rod ends are original they will be adjustable for minor wear and failure to adjust them indicates poor maintenance.

 Have a look under the car at the rear.  Check the angle of the swinging shackles where the springs attach to the chassis.  If they are almost touching the chassis the springs are likely to need attention very soon.  There is not much else to see at the back but look for general condition and any signs of body rust.

 Now is a good time to check the tyres.  Are they cross ply or radial tyres and how much life is left in them?  Look for any damage to the side wall including cracking.  A set of 5 new tyres is an expensive item so do your checks carefully.

 Now turn to the engine.  Open the bonnet tops and have a general look around.  Does it look tidy and well cared for?  Does it look as though it has just been cleaned while the rest of the car is a little grubby?  If so check it again after the car has had a run.  It may have oil leaks which the seller has tried to hide.  Give the fan blades a shake.  Any movement indicates worn bearings or a pulley which is loose on the spindle.  Check how deeply the fan belt sits in the pulleys.  Water pump and some dynamo pulleys are aluminium and a prone to wear and a belt which sits deeply in the pulley may indicate significant wear particularly if it sits high in the other pulleys.  Check the exhaust manifold for cracks, 2½ litre ones are more prone to cracks than 1½ litre ones.  On 1½ litre cars check if the hot spot system is still fitted.  Many owners remove it along with the pipes which carry exhaust gasses through the cylinder head and block.  This makes cylinder removal much easier.  If the system is still in place it might indicate that the head has not been removed for a decoke and valve regrinding for a long time so pay special attention when you come to check the compressions.  On 1½ cars look at the oil filter.  The original filter is a large single piece canister and direct replacements for these have not been available for very many years.  Well maintained cars will have a conversion kit fitted which takes modern easily replacement screw in canisters or perhaps paper elements.  If the original filter is still fitted it has probably been doing more harm than good for many years.  Check the oil on the dip stick.  If that looks like black treacle this may be a car to avoid unless you are prepared to rebuild the engine in the near future.

 Look around the engine bay and the bulkhead for signs of rust.  In particular look inside the battery box for signs of rust at the bottom.  Water often collects here and it is not uncommon to find the bottom almost completely rusted away.  Release and remove the radiator cap.  The water in the radiator should be clean and not rust coloured.  You should be able to see the tops of some of the radiator cooling tubes and there should not be any rust flakes jammed in the tubes.  When you give the car a test run keep an eye on the water temperature gauge.  If the temperature starts to approach boiling point the radiator may be blocked and in need of recoring.  Cast an eye over the condition of the wiring.  You may find that an extra fuse box has been added to hold fuses for the lighting system as Riley neglected to provide any.

 Start the engine and let it warm up for a few minutes.  As the engine idles the ignition light might glow and the ammeter show a small discharge.  The ignition light should go out and the ammeter show a charge as the engine speed increases.  It should run smoothly and spin up smartly when the throttle is opened.  Check the exhaust and remember that black smoke is excess petrol burning (mixture too rich) and blue smoke is oil burning (worn engine).  A little blue smoke when the engine first starts is acceptable but continuous blue smoke while it is running means a well-worn engine.  With the engine idling check the oil pressure.  If the engine is cold the pressure may be quite high but as the engine warms it should drop significantly.  Unless the engine has been recently rebuilt expect the oil pressure to drop to around 10 psi.  It may well drop much lower than this but this nothing to panic over provided the pressure climbs quickly as the engine speed increases.  Riley pressure gauges are crudely made and may well register zero when there is plenty of pressure there.  Be more concerned if the engine has cover a lot of miles and the oil pressure at idle stays high (say 20 to 30 psi).  There are oil ways in the crankshaft which are prone to being blocked by an accumulation of dirt in the oil.  Blocked oil ways restrict the flow of oil to the bearings giving a high pressure reading on the gauge but starving the bearing of oil.  This will lead to bearing failure.  If you have an engine with these problems our [Maintenance Notes CD](http://rmriley.zz.mu/maintenenacenotes.htm) show how to overcome them and prevent them happening again.

 Go back to the engine bay and listen carefully to the engine.  A rapid light tapping from the top of the engine is probably just the tappets working.  Knocking noises from the bottom of the engine could be worn main bearings or big ends.  Remember that the big ends can fail if the crankshaft oil ways are blocked so dirty oil plus a high oil pressure at idling speed plus a knocking noise add up to bad news.  Well worn pistons can also give rise to a slapping noise quite similar to little end noise.  Worn pistons cause compression loss and oil burning.  Sometimes a knocking noise is nothing more than a loose dynamo mounting and resting a hand on the dynamo should reveal this.

 With the engine warm we now need to do a compression test.  Ideally we would remove the plugs and do a proper compression test.  Failing this, insert the starting handle and turn the engine over a few times.  Each time you pull the handle up you should feel a compression.  The compressions should be strong and all the same.  If one or more compressions are weaker than the others then either the valves are not seating properly or the piston rings are not doing their job or possibly both problems exist.

 It is now time to try the car on the road but before doing so do a basic safety check.  Do the traffic indicators work? Does the horn work? Do the brake lights work?  Do the head lights and side lights work?  It is a good idea to get a friend to follow along behind you (not too close).  He can check that the car is driving straight and is not crabbing and he can look for smoke from the exhaust as well as checking that the brake lights and indicators are working properly.

 Start the engine. It should start immediate since it is already warm. Drive away and change up through the gears.  Does it pull cleaned or does it hesitate at times?  Are the gear changes easy or do they grate?  Remember that the synchromesh is general quite weak and the flywheel is heavy so it takes a while for the gears to line up.  Slow gear changes are needed.  If you had trouble getting into first gear from rest, next time push the gear lever into second gear before pushing it into first.  Actually all you need to do is hold the lever against second gear’s synchromesh.  Try changing down into a lower gear and remember to do it slowly, give the flywheel time.

 As you go along a straight road, relax your grip on the steering wheel and see if the car pulls to the left or the right.  On cambered roads expect the car to gradually run down the camber.  Does the car want to follow white lines and joins in road repairs?  Cross ply tyres are prone to this “white lining” but radial tyres are much better.  Again on a straight road, make sure there is nothing behind you and apply the handbrake firmly.  The car should slow down quickly and in a straight line.  If it pulls to one side suspect oil (brake fluid or axle) on the rear linings.  Next do the same with the foot brake.  This time the front brakes will be doing most of the work so again check if the car pulls to one side.  If it does suspect oil on the linings or a seized brake cylinder.

 Drive for a reasonable distance and decide whether or not you feel comfortable driving the car.  Do not expect it to drive like a modern car.  It will be heavier and everything about it will be slower.  You will want to leave a greater braking distance (no tailgating) and you will want to anticipate bends and corners (no sudden changes of direction).  Overall it will be a more leisurely drive and you should soon relax into it.

 At the end of the drive you may want to take a final look around the car including under the bonnet.

 By now you should know whether it is car you would like to own.  If it is tell the seller that you are interested but want to think about for a little while before making a decision and will be back to see him soon.  Now go a cafe or the pub with your friend and discuss what you have seen.  While you were talking to the seller and doing your checks your friend has probably been walking around the car looking at it from a different perspective.  He may well have seen things that you did not consider.  He will also have seen the car driving along the road and perhaps he saw the roof ballooning up as you drove.

 If you are still interested in buying the car consider how much it will cost to get it to a standard acceptable to you.  This will depend greatly on how much work you will be doing yourself.  If you plan to do some body work yourself remember that they are large cars and as you take parts off (e.g. wings) the space you need will grow rapidly.  Do not try to do a full body rebuild in a lock up garage with no electric power.  There is a lot of wood in the car’s frame and be prepared for some of it to need replacing.  Replacement wooden parts are available but once you have see the standard of Riley’s carpentry you may feel that you could make the new parts yourself.  A full engine rebuild done by someone else will be expensive (£5,000 or more).  Most of the cost will be labour and you might be able to do much of this yourself.  You will probably not be able to do work on the big end or main bearings or reboring the cylinders but there are specialist workshops who can undertake this work for you.

 Many people buy a car in sound running condition and enjoy improving it while using it.  They will take it off the road for short periods of time while they work on it and quickly complete the work and drive it again.  Such running restorations allow the owner to enjoy improving their car while still driving it.

 Bear in mind that you have only carried out a quick check and that if you buy it you may later find more things wrong.  Having decided how much you are prepared to pay go back and try to make a deal.  It would be worth asking if any spares are included with the car.  The seller may throw some spares in to secure the deal or perhaps offer some spares at a good price.

 How much should you pay?  There is no set market price for RMs but look in the glossy monthly magazines as they often give a price guide.  These guides are usually based on advertised asking prices which may be much more than the car’s true value.  You may have seen cars advertised privately and once again the price is the one the seller would like to achieve and he will have including a haggling margin.  There are many tales of people going to see a car which is claimed to be in excellent condition only to find a bucket of rust.  Sometimes they have travelled a long way to see the car and have wasted a day and traveling expenses.  If the car which interests you is a long way away ask for photographs before setting out.  Finally beware of viewing a car in the dark or in the rain.

 You might have found the car of your dreams but there might be an even better one on sale tomorrow so do not rush into a deal until you are sure.

 A final plea.  Please do not buy a road worthy car and immediately pull it to pieces with the intention of turning it into a concours winner.  Drive it around first and get to know it and what needs to be done to it.  Do not start work on it unless you are sure that you will be able to complete it.  Too many good cars have been reduced to a pile of spares by well-meaning owners who were unable to finish what they started.  Please do not become one of these, your car deserves better.