

Tips from the Trade

We asked the experts for their hottest tips



Engine reconditioning

1/ When working on your classic, as the engine has probably been apart previously, do not assume that the components are still standard. Your camshaft/s may have been reground to different profiles and by reinstalling them on standard timing marks you could run into trouble. For a modest charge Kelford Camtech can provide a computer printout of your cams so you can reinstall them correctly.

2/ When dismantling your engine, always keep the lifters in order. A board drilled with the correct size holes to hold the lifters, and numbered so you know which is which, can be helpful. It is really important to rematch the cam lobes to their correct lifters if you are going to reinstall them in the engine without them being mismatched.

3/ Never run lifters on a worn cam or worn lifters on a new or reground cam. This is a recipe for disaster.

4/ If you are building up a performance engine with a cam for increased lift and/or duration, Kelford Camtech suggests 'breaking in' the cam on soft valve springs. The most frequent performance cam failures occur during the breaking in period.

5/ If you are building a modified engine, always do a 'dummy-up' assembly to check your clearances. Many engines can run into valve-to-piston and valve-to-block problems if you start using modified cams and/or modified rockers. If you are aware of the problem, you can do something about it before it causes damage.

6/ Check the compression ratio you will be requiring your engine to operate with. Some cylinder heads and cylinder blocks have been machined so often that, unless some compensating modifications are made, the compression ratio in your rebuilt engine will be excessive.

7/ To maximise performance of your engine, Kelford Camtech strongly recommends dialling in your camshaft/s. If you do not have a suitable dialling disc or a degree wheel already, Kelford Camtech can supply you one from their range.

8/ For flat tappet cams, preparation with a quality assembly lube will minimise the

risk of damage during the critical break-in period.

9/ Kelford Camtech's experienced staff can provide free camshaft and valve train advice on 03 366 4514!

Kelford Camtech ~

(Carburettors, camshafts, valve trains etc)
166 Wordsworth St. (PO Box 7505)
Christchurch, Ph 03 366 4514, fax 03 366 4515, toll free orders: 0800 338 000.

Mechanicals

"THIS ADVICE COMES FROM CARS I HAVE KEPT TUNED OVER A PERIOD OF TWENTY YEARS."

Overdrives

Although overdrives are reasonably reliable, if problems do occur they are usually expensive to fix. However, one of the most common failures ~ glazing of the over-run linings ~ can easily be avoided by sensible driving techniques.

Symptoms: the engine speed drops under overrun in forward gears (when in direct drive) and, worse still, loss of drive occurs in reverse. Both these conditions can worsen as the gearbox oil warms up. The sensation in the forward gears is often initially thought to be clutch slip. Glazing occurs over a long period of time by changes out of overdrive under high overrun conditions ~ easily identified by a marked jerk as the engine is bumped up to speed as the overdrive drops out. Each time this happens, a momentary slipping takes place on the overrun linings which, after many such changes, causes the linings to glaze and lose grip.

To avoid it, change out when the engine is under power ~ even a small amount will do. Delay the change if necessary ~ after all, you won't need the lower gear until under load. Alternatively, some people prefer to use the clutch as in a normal gear change.

(Early MGBs fitted with the D-type overdrive had a vacuum switch fitted which automatically delayed the change till power came on again, but this was discontinued in late 1967 when the four-synchromesh-gearbox was introduced.)

Combustion problems

The most common cause of combustion problems, such as pinking in MG engines, is not fuel as usually assumed, but distributors not performing to spec, especially those with worn centrifugal

advance mechanisms. This slackness results in the distributor giving too much advance too soon, with obvious results. Often this is 'tuned out' by simply retarding the whole distributor, a move which certainly stops the pinking but also leaves insufficient advance at mid-to-high engine speeds, leaving the engine well down on power. Even setting the advance to the correct spec using a timing light at idle doesn't solve it, as the distributor has already used up most of its advance at idle, when worn like this, so it ends up well short of where it should be at mid-high speeds. (See panel, below).

Once this is done, reset the ignition timing and check the newly adjusted advance with the light again, followed by any final adjustments necessary from road test. You won't believe it's the same car after that!"

Twin Carburettors:

Forget the old myth that they are hard to keep tuned.

Twin carburettors have an unjustified reputation for being hard to keep in tune. This comes from the bad practice of fiddling with the carburettor of an off-tune engine before having first checked that all else is in order ~ compressions, ignition timing, distributor, advance rate, tappet clearances, along with a lack of air leaks into the inlet manifold from such sources as damaged gaskets or faulty brake servos. Typically, someone confronted with an out-of-tune twin-carburettored engine

Example

The following example (on pre-'73 MGBs) illustrates what to do:

Confirm the problem by checking the advance at 2500rpm with a timing light (vacuum disconnected) ~ it should be 30° total. It should drop steadily through 23-24° @ 1750rpm to 14° at 700rpm. If it doesn't meet this within a degree or so at each speed (many can be 10° or more out), the only cure is to strip the distributor and rectify the advance: check the take-up point of the heavier spring ~ the cam should have moved about 1/3 of the way to its stop when the heavy spring takes up. Typically, in most worn MGB distributors the cam will advance nearly all the way before the larger spring cuts in! This can be 90% cured simply and cheaply by closing up the hook on the heavier spring a bit so that it takes up at the correct point.

Panels and fitments

DOUG GREEN, OF KIWI METAL POLISHERS, has restored five Land-Rovers, five vintage cars and three pick-up trucks, two motorbikes, a caravan and dip-stripped nearly two thousand cars, so he's picked up the odd shortcut or two ...

New projects: After purchasing your new project, hoping it's in one piece and you plan to strip it for restoration, make sure that all doors, guards etc fit and are to your satisfaction. This makes it easier later on as you don't have to keep fitting up, and can save you a few hours in assembly as you progress, knowing the panels were OK to start with.

When restoring your project, keep a nail box beside the bench for any part that needs replacing - ie, bolts, nuts, springs etc. Write down how many of each you need and leave the note in the box. Go to the appropriate place taking the box along, and get replacement fittings as you go. This way, you won't ever be caught short when reassembly begins. This makes the job a lot easier as you normally need these fittings late at night or on Sundays!

Do as much of your own project as your ability allows. This will save you a lot of



money and will give you a great sense of achievement.

Chrome: this is a lot harder to look after than paint and needs TLC. After washing your car, dry off and spray chrome with CRC, shielding the paint, of course. Then buff it off and polish it with a good car wax. This will keep your chrome like new for many years to come - my chrome's twelve years old and still looks new.

Metal: machined and bare metal surfaces that aren't ready for assembly or chrome that needs to be protected can be sprayed with a cheap spray can of silver paint. This can be washed off at a later date with just thinners on a rag and be ready for use, or chromed. Don't oil polished surfaces that are to be chromed as it can't be cleaned off easily, so can affect your chroming.

If you need a job done properly, get the right information and advice from the

right people; read *Classic Car* magazine to look out for the experts!

Kiwi Metal Polishers

New Zealand's largest dip stripper
Doug & Doreen Green, 50 Pururu S,
Rotorua Ph 07 347 9728
Fax 07 347 9728

New metal

NEW PARTS AND PANELS ARE ALWAYS GOOD!

If you can buy brand new parts, it always works out cheaper in the long run than trying to fabricate panels from new. Work to a budget. If you do your research, you can get panels for a surprising number of English and American cars. Also do your homework to find good professionals.

When you get your car back all finished, rust proof the living daylight out of it. Prevention is better than cure. Then wax it two or three times in a row to give the new paint lasting protection - it also helps the car look fantastic.

"I treat every car the same, whether it's a Morris Minor or a Rolls-Royce."

Heritage Metal Blasters

Daniel Lucas, 09 826 1686, 22 Puriri
Street New Lynn Auckland 09 826 1686

readily recalls having heard that they are hard to tune and keep tuned, so assumes that's where the problem is and sets about trying to adjust the carburettors to make the engine run better.

As the problem was probably somewhere else, the tuning attempts are invariably doomed to failure and the engine finishes the exercise no better off than it started. 'Gosh!' (to be polite!) 'It's true! Twin carburettors are hard to tune!' And so the myth is perpetuated.

The actual tuning procedure is quite simple: first, check that everything else is to spec (see above) - it is a waste of time trying to tune out a fault elsewhere by adjusting the carburettors.

Next, if you haven't had anything to do with the car before, check the condition of the carburettors - particularly wear in the throttle spindles and also the needle valves. Air leaking through badly worn spindles will make the idle uneven and more difficult to set, since the amount of air varies. If worn, fix the problem or expect only limited success in setting the carburettors.

Having done these key initial steps, following the standard tuning/balancing process outlined in the workshop manual will quickly bring the carburettors into excellent balance. Once the carburettors are set up properly, if they are in good order you will generally find that only minimal, if any, adjustment is needed at subsequent tune-ups once everything else is checked first (including renewing

spindles etc if required - sorry to repeat it, but it is vital).

Paul Walbran Motors ~

The MG Parts Specialists: 17 Brownie Rd,
Laingholm, Auckland 1007 Ph 09 817 8194
Fax 09 817 8164



Ash and oak

KEEP THAT OLD WOOD!

Neville's advice is, when you're restoring wood: Don't throw any of the original wood away! No matter how bad, it can be used as a pattern. And don't use tanalised pine. It's just not good enough. Use ash or oak. Any wood that's going to be covered and out of sight must be treated first - either with paint or something else.

Vintage & Classic Wood

Neville Rhodes, Purakau Street
Marton 06 327 6164, 06 327 6164



Upholstery

LEAVE IT TO THE EXPERTS

Jim Woonton says that, with upholstery, it is usually not a good idea to have a go

yourself. Leave the trimming till last so any upholstery doesn't get damaged by any other resto work or overspray, etc. Good trimming finally brings a car to life. "Leather needs to be fed; it's like an animal."

Heat dries and cracks it, so use a leather conditioner to help preserve it - once it's dried and cracked, it's had it.

With hoods and soft tops, if you're putting your car away for a few days or more, don't leave the hood down - put it up. This will help delay creases forming."

Jim Woonton Auto Upholstery

51 Park Rise, Campbells Bay, Auckland
Ph 09 478 5482 Fax: 09 478 6609



New fluid

DRAIN 'EM!

Before you put brand new brake cylinders into your car, drain and flush out your old fluid and replace it with new fluid.

Grit and dirt in your old fluid can readily damage even the hardest new stainless cylinders.

Just Brakes

Peter. 340 Church St, Penrose, Auckland,
Ph 09 525 7509 Fax 525 7509