



Following on from our brief look at rust last issue, Roger Brundle takes a closer look at

# The Body Beautiful

Probably the job that presents the biggest headaches to the serious Traction restorer is the hull and associated bodywork. Owning an example of a marque that was one of the first to use monocoque construction is a good talking point down the pub with owners of lesser automobiles, but in the workshop knee deep in rust flakes it is a pain in the rear wings.

There are few short cuts in preparing a Traction so that it will still look good years later, and a lot of tedious hours and not a few dollars have to be spent to ensure this. It is therefore a good idea that the body selected for refinishing is suffering from as few of the problems that afflict them as possible. Unless it is one of the 77 coupes known to exist! Almost anything can be reclaimed of course, but the current value of Traction precludes all but the fanatics from spending the necessary time and money. So a few hours of preliminary investigation may be well spent.

The real problems are rusting (structural and cosmetic), accident damage, (current or prior) and structural failure.

## RUST

There is no Traction in existence that is not suffering from the dreaded tin-worm to a greater or lesser degree. The cars were assembled before dipping of body shells to coat internal surfaces became fashionable and consequently all the hidden surfaces that could not be reached with a spray gun didn't get any paint. Traction hulls therefore rust from the inside out, which is somewhat annoying in that you only get to see the rust in the terminal stages of decay.

Rusting that affects the structural integrity of the hull occurs in the front footwells and bottom of the inner and outersills, and bulkhead, where the lower cradle mounting bolts run inside the hull, the inner rear guards, and the boot floor.

Cosmetic rust can occur virtually anywhere, but worst spots are the bottoms of doors, around the small boot hinges, rear extremities of front wings, battery box, the big boot skirt panel, and parcel shelf panel (if rear window seal has leaked).

Extensive structural rust must be cut back to good metal and new sections welded in. This is difficult around the lower cradle mounting bolts so these areas can be plated with 18-gauge sheet steel lap-welded over the old panels. If extensive welding is necessary in the floor/lower bulkhead/inner sill areas, ensure that the front torsion bar anchor cross members are in position, otherwise the inevitable distortion could make it necessary to use a rather large hammer to persuade them back into place. Also if floor replacement is necessary, ensure that the crossmember under the front seats is in good condition and is securely welded to the floor front and rear and to the inner sills at either end. This crossmember plays a large part in maintaining torsional rigidity of the hull. Examples with non-existent front floors, cross member and inner sills have the rigidity of soggy pasta. It is interesting to note that the Slough built cars suffer more from sill rusting due to the bloody great holes cut in the door pillars to allow the trafficators to feebly flap. Fabricating and welding on new outer sills, although possible, is not really practical due to the fact that you can't get at the inside and they are a complicated shape. If there are pinholes only, remove the paint so that the extent can be seen, then prod all suspicious patches with a sharp instrument until the panel resembles gruyere cheese. With a suitable round nosed punch, carefully punch the metal surrounding the hole until it is below the panel surface. Then fill with your favourite filler. This procedure can also be used on the bottom of the door skins as welding in bits here will distort the door panels. However, unless the inside of the doors and sills are treated with an effective rust-inhibitor it will soon occur again. It will anyway, but at a later date.

If your small boot floor is really bad news, it is worth chasing around trying to find a wrecked car with a good boot as they are surprisingly easy to remove and replace, being spot welded only around the edge flanges.

Welding patches into mudguards is probably best left to a professional body man due to the complex shapes and distortion problems.

## ACCIDENT DAMAGE

As the youngest Traction is now over 20 years old, the chances that it has had a major bingle are quite high. If this happened early in its life it was probably well repaired, but as the cars value dropped, so probably did the quality of accident repair. If you have been driving your car, any major misalignment should have shown up as poor fit of panels, curious handling, and odd tyre wear, but if you have bought a non-runner, then it may not be so obvious. In this case it is worthwhile checking the fit of the doors and boot, and sighting along the hull from various angles. The hull could be set up level on a level floor,

and the various dimensions as shown in the workshop manual and diagonals checked by means of plum-bob, chalk and string. If the hull is seriously misaligned, it will mean an expensive visit to your friendly panel-beater, unless you are handy with a porta-power, and it may mean that it would be better to hunt around for a better example. Cars with badly wrinkled wings should be viewed with caution as good wings are becoming scarce and repairs can be expensive. Previous use of plastic filler in large quantities is an indication of something seriously amiss, and can be detected by running a magnet over suspect panels.

## STRUCTURAL FAILURE

Although the hulls must have been quite strong and rigid when first assembled due to the fully stressed bodywork, they inevitably loosen in time, and this process is accelerated by the ravages of rust. A lot of the strength of the hull is provided by the front floor, sills and crossmembers. Unfortunately these are also areas prone to rusting and loss of strength here leads to increased flexing of the hull, which can result in cracks appearing at highly stressed points. Places to examine are the lower corners of the door apertures, top and bottom of the door pillars and where the rear seat pan meets the inner rear wings.

The longer wheelbase Traction seems to suffer more and have a habit of becoming banana shaped and cracking around the base of the screen pillars. It's worth checking all these points before indulging in a full refinishing program.

After the rust, cracks, dents, and nesting sparrows have been dealt with, the next step is to decide whether the existing paint has sufficient adhesion to the metal to support the new finish. Sand through the old finish and primer to the bare metal and feather edge a small area to check whether the thin edge will crumble or break away. If it doesn't then it is safe to go ahead with refinishing over the existing paint. If it does break away, which usually happens, then cancel all social engagements for the next three months, as the old paint will have to be removed. There are three methods of paint removal: sanding, chemical stripping, and sand blasting.

## SANDING

Use a disc sander with a number 24 grit open cut disc, followed by a number 50 grit to remove number 24 scratches. Nooks and crannies can be sanded by hand with P120 dry rub open-coat paper. When using a disc sander always wear goggles as paint chips can do nasty things to unprotected eyes. One problem with disc sanding Traction is that the hulls are filled in a number of areas with lead, and the disc tends to cut into the lead deeply leaving ripples and waves in the surface. The lead areas are a ring around the roof panel insert and the vertical joints running down from the scuttle.

## CHEMICAL PAINT REMOVER

Probably the best method, but is incredibly messy. Use the paint remover recommended by the paint manufacturer whose paint you intend using, such as Dulux rapid stripper for Dulon. These strippers work best if the paint surface is roughly scoured or sanded before application of the stripper as this allows the solvent to penetrate. Otherwise only one coat will be removed at a time. When the paint has bubbled, most can be removed with a wide flat scraper together with a selection of screwdrivers or similar for crevices. Always wear gloves and goggles when using chemical paint removers as they act also as effective skin removers.

They have the advantage that they do not damage the metal surface as heavy-handed sanding or sandblasting can do, and are probably quicker than sanding. After use the metal surface should be cleaned up with the recommended neutralising agent.

## SAND BLASTING

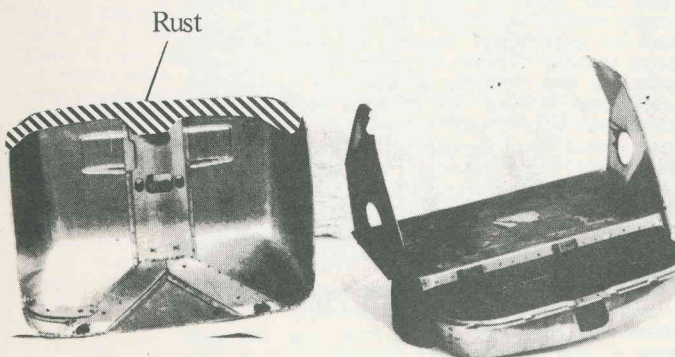
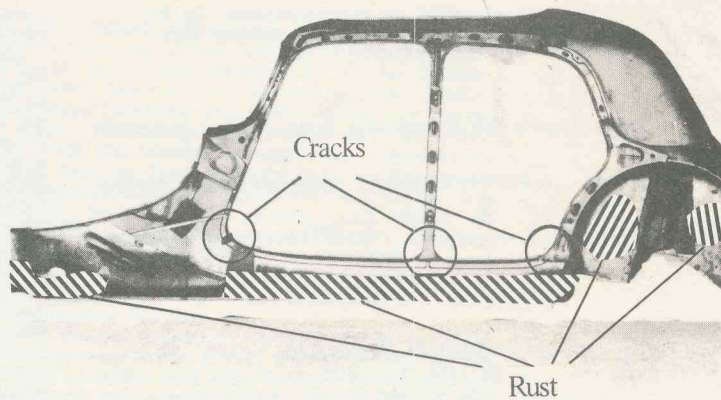
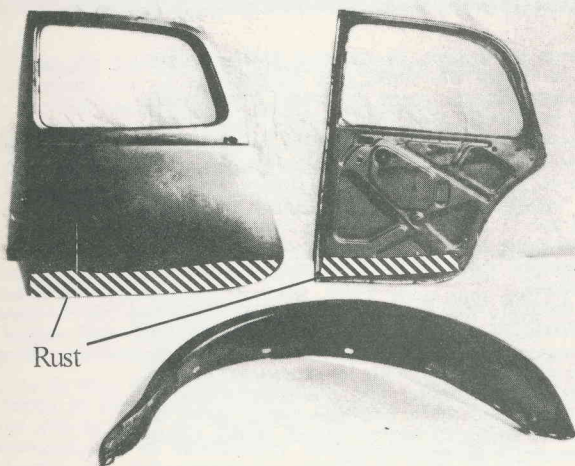
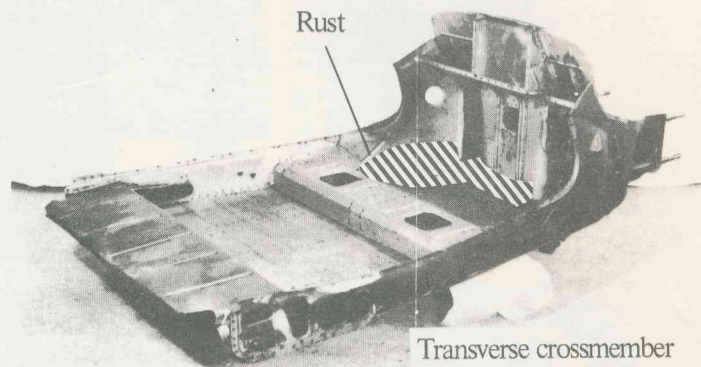
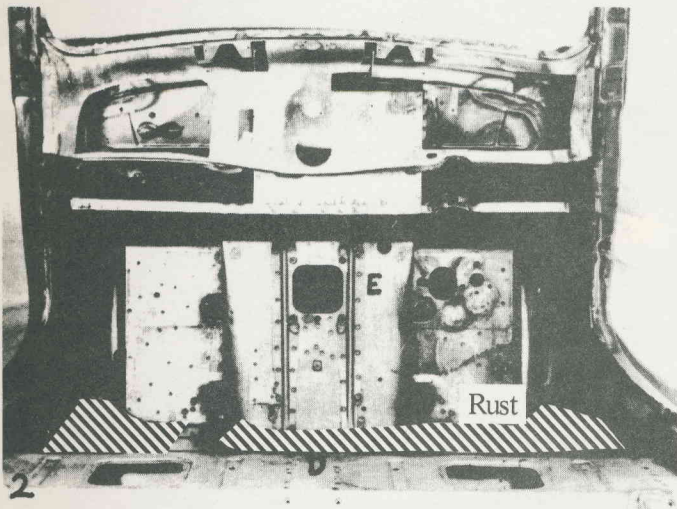
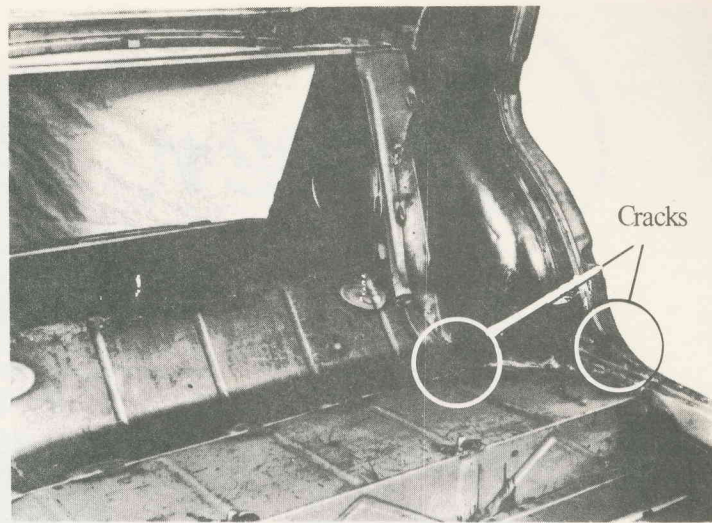
Although sand blasting is a very effective method of removing paint and rust, it must be used with a fair degree of caution. Unless the operator is skilled and experienced in sandblasting car panels, they can easily be damaged beyond economical repair. This is due to the metal stretching when hit too hard for too long in one spot. Worst affected are panels with low-crown (near flat) such as door skins, roof and bonnet panels. High-crown panels, e.g., front and rear wings, are not so easily stretched, due to the amount of curvature in them. I have a set of 11CL doors with gently undulating panels as a result of entrusting them to a company not experienced in this sort of work. Sand blasting, however, is fine for those more substantial parts such as bumper and wing brackets, although it must be remembered that paint and rust will only be removed from where the sand can reach. Newly sandblasted parts must be protected with paint almost immediately, as the bare metal starts to rust very quickly. Sandblasting provides an ideal 'key' for paint.

To be continued next issue.

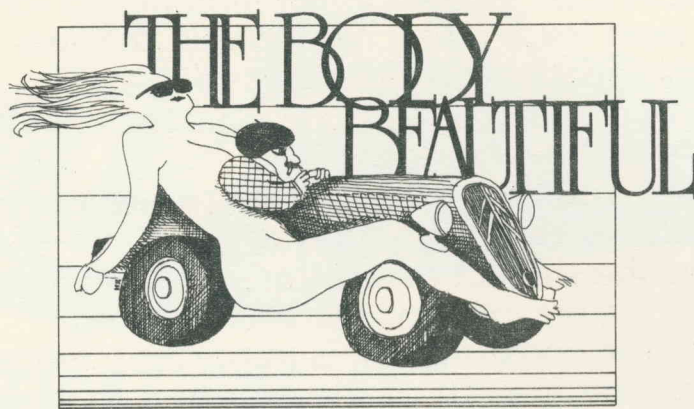


# The Body Beautiful .....

showing most common locations of rust and cracks.  
These photographs originally appeared in *Floating Power*, showing components for a Light 15, as they arrived in Slough for assembly.







Last issue covered body preparation as far as rust, damage, and paint removal. This article will attempt to cover surface preparation and painting, both primer and colour coats.

Refinishing a car is probably 90% preparation and 10% for the final colour finishing. The preparation is not beyond the moderately adept, and will obviously save many dollars if undertaken by the tractionist rather than putting the whole job in the hands of professionals (restoring from the wallet). One problem may be finding a professional willing to undertake a colour-coat only job, as the thoroughness of the preparation may not be obvious. Even if it is decided to farm the whole job out, it is worthwhile knowing what is involved, as then a reasoned choice can be made regarding paint finish required, etc.

### 1. Types of finish

Disregarding the specialised finishes such as the polyurethanes, there are three main types of finishes in general use — spraying enamel, nitrocellulose lacquer (Duco), and acrylic lacquer.

#### Spraying enamel

This type of material is a refined version of the standard brushing enamel (Alkyd Resin type base). In the hands of the novice it may be the best type to use, as the preparation is kept to a minimum, and the overall cost is less than the lacquers. All that is usually required to repaint a vehicle that has been painted is a solvent wash, repairs, and sanding. If the paint film is in good condition, the enamel can be applied to the old finish without an undercoat, although it is preferable to undercoat all over to ensure good intercoat adhesion.

The main advantage of enamel is that it gives a good gloss off the gun, and needs no subsequent cutting and polishing. Another advantage is that it can be used with low pressure units (30psi) with good results. This is because the enamel, taking longer to dry, has more chance to level itself out to a smooth finish. The disadvantage is of course the longer drying time (overnight), during which time dust can settle onto the wet paint. Also in the hands of the heavy-handed, they are more inclined to run, sag, and generally drip everywhere as the film build per coat is thicker than with lacquers.

#### Acrylic lacquer

Acrylic lacquer is a relative newcomer to the car painting field: GMH first used it in June 1960 when they changed from a conventional nitrocellulose lacquer system. Today, virtually all motor manufacturers use acrylics in various forms, formulated to their own specific requirements. Acrylic lacquer is without doubt the best finish to use, as its fade resistance, chip resistance and general lasting appearance are far superior. Its greatest drawback is that it can only be used over acrylic lacquer, baked enamels and bare metal. Thus with a traction, it is necessary to start from scratch, i.e. bare metal. This may not be considered a real disadvantage, as most serious restoration work is stripped to the metal anyway. Acrylics have more 'bite' to gain adhesion, and if painted over conventional finishes, the results will be similar to throwing a bucket of thinners over it. So be warned, and

apply it only to the manufacturers specifications. Acrylic lacquers must be cut and polished to obtain full gloss and lustre, as with nitrocellulose lacquer, but once cut and polished, all the maintenance required is frequent washing.

### 2. Surface preparation

Proper surface preparation is the key to successful refinishing — and any neglect will be obvious in the final finish, either immediately or at a later date.

The overall condition of the existing paint is the first consideration. Failure to identify defects at this stage can be expensive in terms of rectification — which could even involve the complete removal of the finish.

The entire vehicle should be thoroughly washed with a mild detergent, hosed off and completely dried. Again the whole vehicle should be cleaned, this time with a solvent such as Dulon Prepsol (described later) to remove wax and other contaminants. This should be done prior to any sanding operations, as sanding over a waxed surface tends to spread wax and cause it to become impregnated in the paint film, making removal difficult.

Look carefully for any signs of surface damage or other forms of film breakdown — such as checking, cracking or humidity blistering. Horizontal surfaces show the greatest film deterioration. Careful inspection of the bonnet and roof will give a good indication of the overall condition of the paint system.

Low gloss level will often indicate surface irregularities caused by such defects as micro-blistering, which will need thorough investigation. Look for brittleness or poor adhesion, often indicated by excessive chipping. If in doubt, sand through the finish as described in the last issue and check the feather edge for crumbling.

Unless it is decided to use acrylic lacquer which requires stripping all the existing paint, it is at this point that a decision is made as to whether the existing paint will take the new finish or needs stripping off. If the latter is the case, then proceed with one of the methods described in the last issue, viz: sanding, chemical paint stripping, or sand blasting. If it is decided to refinish over the existing paint using either enamel or nitrocellulose lacquer, then the next step is sanding.

#### Sanding

Sanding is a levelling out process and a means of providing a key for the adhesion of the subsequent coats. The grit size or grade of sand paper chosen will depend on the condition of the area to be repainted. Generally the paper chosen should only be coarse enough to do the job in the most economical way. The quickest way is not always the most economical, as too coarse a paper will introduce sand scratches, which will be difficult to remove.

The choice of dry or wet sanding is up to the person doing the hard work. Both methods have their problems. Dry sanding creates sanding dust floating around and can lead to a dirty paint finish. On the other hand wet sanding creates the problem of removing water from behind chrome strips, badges, etc, and the sanded areas must be thoroughly sponged to remove sludge. Wet sanding however, appears to produce a smoother job.



Except when scuff sanding use a sanding block when possible, and a simple back and forth motion (in the 'direction' of the panel). Flat surfaces can be sanded with a flat hard rubber sanding block. For curves, a sponge rubber block should be used for backing, but if this can't be done, then the hand should be kept as flat as possible on the paper, with the fingers closed together. Spread fingers will produce parallel ridges of imperfectly sanded material which will show up in the finish.

The refinisher performs several types of sanding operations:

**Scuffing:** This is done to knock off nibs, dust specks, etc., on non-sanding primers, sealers or anywhere dirt appears. Sanding should not cut into the film—thus you should use a fine grit paper (400 grit) folded to fit the hand.

**Light sanding:** This is done on all areas where the old finish to be repainted is in good condition. It removes the gloss and improves adhesion. It is done by hand or with an orbital sander, but never with a disc sander. If the topcoat is to be enamel, then a 280 – 240 grit paper can be used. It can be done by either wet or dry method.

**Thorough sanding:** this is used to smooth primed areas or to smooth the old finish if it is in poor condition. It can be done with a power sander or with a sanding block or pad. For the average job, 400 grit is recommended where lacquer is to be the topcoat, and 320 grit where alkyd enamel is to be the topcoat.

**Complete sanding off:** This is done when a finish is crumbling, spongy, badly cracked, or otherwise in very poor condition. Use a disc sander with a 24 grit, followed by 50 grit to remove the 24 grit sandscratches.

**Bare metal sanding:** This usually is not necessary. However, if the metal is very rough from coarse sanding, you may have to sand with a 50 grit disc to level out burrs, nibs, and deep scratches. The smoother the bare metal, the easier the finishing will be.

**Featheredging:** Broken areas where spot repairs of the old finish is required must be featheredged. If they were simply painted the broken film would be quite noticeable. Therefore the sharp edge of the broken film must be tapered by sanding. Then the bare metal areas must be filled with a primer surfacer and finally sanded smooth and level. Where several small chips appear, such as the front of the guards, they may be combined into one large featheredge—follow these steps:

First cut down the edges of the broken areas with coarse 220 paper. If an orbital power sander is used, 150 paper is recommended. Complete the taper of the feather edge by hand, using sanding block with 360 or 400 grit paper and water to produce a fine tapered edge and eliminate coarse sandpaper scratches.

#### **Metal conditioner and solvent wash**

Two products that are essential for good surface preparation are metal conditioner and a solvent wash. The relevant products in the Dulux range are Dulux Deoxidine 624 metal conditioner and Dulon prepsol solvent. (In this article Dulux products will be referred to, but other manufacturers have similar products. However it is not a good idea to combine products from different manufacturers—they may not be compatible!)

Most unprotected metals react rapidly with oxygen and moisture. The oxidised film must be removed completely and sanding alone will not do the job—a metal conditioner must be used.

Treating bare body steel with Dulux Deoxidine 624:

- (a) removes residues of oil which may have been ground in during sanding;
- (b) removes rust;
- (c) conditions metal such that when painted, adhesion is upgraded, and, in particular, humidity resistance is increased significantly.

Here's how to use it properly:

Add one part Deoxidine 624 to 2–3 parts of water, depending on the degree of rust present. It can be used neat if required, but care should be taken to avoid contacting surrounding painted areas when it is used undiluted.

Operators should use gloves and eye goggles when handling this material.

It should be applied with a cloth, sponge or brush. Heavy deposits of rust should be removed by scrubbing. Metal conditioner dissolves the rust and leaves a thin film that inhibits future rusting. While the surface is still wet, wipe up with clean water,

then dry off and prime immediately (within 4 hours, but the sooner the better).

This is important, as if the Deoxidine 624 treated surface is left unpainted, rusting will reoccur and treatment will need to be repeated before painting.

Remember that by grinding down to bright metal you are not protecting against rusting. On the contrary, grinding will actually accelerate future rusting because of the ground-in rust particles or oil etc.

Deoxidine is basically dilute phosphoric acid and is also useful for de-rusting small steel mechanical parts (such as fasteners, gears, shafts, etc.) which can be completely immersed in a neat solution for some time. Wash off with water when all the rust has been converted and wire brush. An advantage as far as gears are concerned is that the iron phosphate film left on the surface has extreme-pressure properties and will be less liable to scuffing on initial running.

Prepsol is a product that is often misused. Many users are under the impression that Prepsol is recommended only as the final wash before colour-coating. While this is true, it is also recommended that Prepsol be applied in liberal quantities immediately after washing the car with soap and water.

The application of Prepsol just prior to colour coats is an added precaution in removing contaminants that are transferred from hands and clothing during sanding operations. Prepsol floats wax, silicone, tar, polish, grease and road film so that these substances can be wiped off. Unless this is done well, adhesion will be poor and humidity blistering may also occur.

To use Prepsol, pour from container onto soft cloth and wipe surface. Do not allow the pouring outlet of the container to contact any cloth used in this treatment. Work in small areas only, starting at the top, keeping the surface wet. Do not allow Prepsol to run down the job. Dry off each completed section with clean cloth. Do not allow Prepsol to dry out on the work. Change rags frequently and do not reuse.

To ensure complete removal of contaminants, repeat the above procedure. Prepsol should be used before sanding, and painting.

#### **Fillers**

Fillers are thermosetting putties, usually manufactured from polyester resin or selected minerals, and require an activator, or so-called catalyst, to harden. The catalyst is coloured, and usually referred to as a hardener. Fillers are designed to adhere to bare metal, and should not be used between layers of paint. Application: The filler should be used in moderation. No more than ¼" should be applied in one application as the material becomes unmanageable and no firm pressure can be applied to eliminate air bubbles. If deep filling is required the first application should be allowed to gel, and a second application should be applied immediately.

However, applications should never be below 1/16" thick as the filler curing relies on heat generated by the addition of the hardener, which cannot be successfully be accomplished in thin application. If filling below this thickness is required, then it is best to overfill and cut back to the desired level.

It is most important to read the manufacturers instructions as to the recommended hardener level on different brands of fillers, as they vary in their prepromoted levels as well as in the hardener concentrations. Never use more than the maximum hardener level recommended by the manufacturer and use a brand of putty featuring a strongly coloured hardener so that the user can be sure to obtain an even dispersion of hardener in the putty.

If more hardener is used than recommended, the polymer structure of the putty will not be able to absorb the excess hardener but will simply throw out the excess during the curing period. This will most commonly result in the bleaching and discolouration of the colour coats.

A body file is used to roughly shape the filled section followed by an open coat sand paper on a sanding block to bring it up to the feather edging stage. From there on, a closed coat paper is used. With the major dents and defects removed, and only surface imperfections remaining, painting is commenced.



## Etch Priming

When working from bare metal, the next step after metal conditioning is to spray a light transparent coat of etch primer. Etch primers promote maximum adhesion of primer surfacers to bare metal and fibreglass. They are used irrespective of the final finishing system. Etch primers should not be sanded other than to de-nib and primer surfacer should be applied as soon as etch primer is touch dry (15 – 20 minutes), otherwise they can absorb moisture which can affect the finished job.

## Primer Surfacer

Primer surfacers have been developed to combine the adhesion and priming properties of primers with the filling properties of undercoats. When dry, the primer surfacer is sanded to remove minor surface imperfections and ensure uniformity in the colour coat which follows. Dulon 3D primer surfacer is an example of a lacquer type primer surfacer which is formulated specifically for use under Dulon acrylic lacquer and Duco lacquer, whereas Dulux Primebond should be used under spraying enamel.

Primer surfacers should be applied in thin wet coats allowing each coat to flash off (become dull) before applying the next coat. Usually three coats are sufficient.

## Body Putty

Surface imperfections that show up after the primer surfacer is applied and sanded can be handled with body putty (also known as spbt, and stop putty). This is intended only for use in small spots, and is designed to adhere to primer surfacers. It must not be used directly over bare metal. Two types are available – hand stop and spraying.

**Application – Hand stop:** Apply in thin coats using a squeegee rubber, celluloid or flexing putty knife. Where heavier builds are required, use two or three applications. After drying, wet sand and overseal with primer surfacer.

**Application – Spraying:** Supplied ready for use, but may be thinned as directed. It can be applied over all sanded enamel and lacquer finishes and over synthetic or lacquer type primer surfacers. Again, wet sand after drying and seal with primer surfacer.

## Tack Rags

Tack rags are essential items. They pick up dust and lint that would only be moved around the surface by ordinary rags. This step if taken before priming, and each coat of paint, means the difference between a good and a bad job.

Starting with a new rag, unfold it and reshape it to a mat slightly larger than the hand. Rub the rag across the surface with firm, even strokes. Do not bear down on the rag or you will squeeze the sticky resin out of the rag and leave it on the car. As one side of the cloth becomes loaded with dust and lint, turn it over. This constant turning keeps the rag at peak efficiency until it is completely used up. Tack rags work properly only if they are cared for properly. They must be kept in their containers when not in use and should be kept warm, otherwise they become stiff and dry. The application of a little heat will restore most rags to working efficiency. If this fails, throw the rag away and start a new one.

## 3. Spraying

To obtain best results with the lacquers, high pressure units are preferred (50 – 70 lbs working pressure). Low pressure units (30 lbs. max working pressure) can also be used, but unless a fair amount of skill and care are used, the so called scourge of the spray painter – orange peel – will occur. The reason it occurs mainly in the lacquers and acrylics with low pressure units is basically this: The lacquer and 'skin', the evaporation of the thinners from the paint. As we all know the lacquers are all fast drying (2 minutes average). If a poor job was done, particularly with the low pressure units, the orange peel cannot level itself out, because it dries too quickly. With the enamel, a slow drier, the paint tends to level itself out to a smooth finish. Another factor is that the low pressure units give incomplete atomisation in contrast with the high pressure units, for the low pressure is not capable of producing the same fine globules of paint of the high pressure units.

## Material Usage Guide

Approximate quantities of materials required for:

	Small Car	Medium Car	Large Car
<b>MATERIALS:</b>			
<b>Spraying Enamel:</b>			
Etch Primer	3 pints	½ gal.	¾ gal.
Primer Sealer (if used)	¼ gal	3 pints	½ gal
Spraying enamel	3 pints	½ gal	¾ gal
Enamel thinner	½ pint	1 pint	1 pint
Enamel Primer Surfacer	3 pints	½ gal	¾ gal
Enamel thinner	1 pint	½ gal	¾ gal
<b>Gloss Lacquer:</b>			
Etch primer	3 pints	½ gal	¾ gal
Lacquer prim. surf.	½ gal	¾ gal	1 - 1½ gal
Lacquer Thinner	¾ gal	1½ gal	1½ - 2 gal
Gloss Lacquer	½ gal	¾ gal	1 - 1½ gal
Thinner for above	½ gal	¾ gal	1 - 1½ gal
<b>Acrylic Lacquer:</b>			
Etch primer	3 pints	½ gal	¾ gal
Primer surfacer	½ gal	¾ gal	1 - 1½ gal
Lacquer Thinner	¾ gal	1½ gal	1½ - 2 gal
Acrylic Lacquer	½ gal	¾ gal	1 - 1½ gal
Acrylic Lacquer thinner	¾ gal	1½ gal	1½ - 2 gal
Blending Clear	¾ gal	3 pints	½ gal

This article was based on one which appeared in the Wimmera, Mallee Historic Vehicle Society Newsletter and on information available from Dulux Australia Limited.

## Painting Hints for the Body Beautiful

To get a rough idea of the smoothness of primer coats, cover with a thin film of water and detergent and sight along the glossy surface – you will be surprised what imperfections will appear.

When wet sanding add detergent to water to reduce clogging.

When applying primer coats, alternate light and dark coats – this will show up the slight ripples and irregularities which otherwise would only become obvious after the topcoats had been applied and polished.

When applying fillers and stop putties, allow as much time as possible to dry thoroughly, as otherwise these areas may shrink after other coats have been applied, even though they look perfect initially.

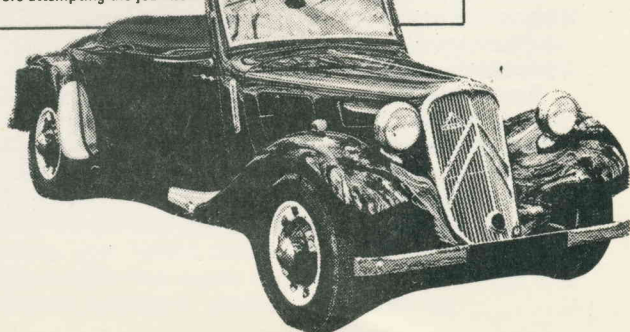
Do not leave primed vehicles in rain – primer has the capacity to absorb moisture – however, ideally, primer should be left for a few days before recoating to allow complete evacuation of thinners.

Avoid spraying in humid conditions – humid days or any day after about 4–5 pm. This is to prevent blushing – caused by the thinners evaporating too soon, before hitting the surface; this premature evaporation causes the mixture from the nozzle to cool, which in a humid environment creates condensation on the paint itself. This moisture is trapped in the paint surface causing a dull finish which is impossible to polish out. A method of reducing the chances of this happening is to add a small quantity of a special thinner designed to slow the evaporation of the thinners – this also reduces the incidence of orange peel, which is also partly caused by the paint becoming too dry before it hits the surface, and thus not flowing together properly.

Optimum spraying temperature is 70 – 80 degrees F.

When buying materials, allow for thinners to clean equipment.

Even this extended article cannot hope to cover all aspects, and tips, about painting, such as the correct spraying technique. This would require a small book at least – many are available at places such as the Technical Book Shop in Swanston St., and there is also a good and practical book available at larger newsagents, called 'Peterson's Basic Bodywork and painting' which as the name suggests, covers panelwork basics also. Painting a car is not so much hard, as hard work – therefore the serious restorer will read as much as he can on the subject before attempting the job itself.





Recommended finishing sequence,  
using Dulux materials.

Operation	All materials	Acrylic Lacquer E Finishing over Acrylic Lacquer, Baked Acrylic Enamel, Baked Enamel, Bare Steel, Aluminium.	High Gloss Lacquer(NitroC.) Finishing over Acrylic Lacquer, Baked Acrylic Enamel, Baked Enamel, Nitrocellulose Lacquer, Bare Steel, Aluminium.	Spraying Enamel Finishing over Acrylic Lacquer, Baked Acrylic Enamel, Baked Enamel, Air Dry Enamel, Nitrocellulose Lacquer, Bare Steel, Aluminium.
<b>UNDERCOATING</b>		As soon as Etch Primer has dried, spray 2 or more coats Dulon 3D primer- surfacers, thinned as directed on label over entire surface to be painted. Allow 30 mins. to dry.	Same as Acrylic.	As soon as etch primer has dried, spray 2 coats Dulux Primebond, thinned as directed. Allow 4 hours to dry before sanding.
<b>FILLING</b>	Apply Duco Quickstop Putty with plastic or rubber applicator to fill any imperfections. Allow at least 1 hour to dry.			
<b>SANDING</b>	Wet sand all over with 320 grade paper			
<b>SEALING</b>		Spot prime puttied area with Dulon 3D primer-surf. and allow 30 mins. to dry.	Spray 1 medium coat of Duco Primer Sealer over entire surface and allow 30 mins. to dry.	Same as High Gloss Lacquer.
<b>SCUFFING</b>		Wet sand with 400 paper.	Dry scuff very lightly with 400 paper — do not sand heavily!	Same as High Gloss Lacquer.
<b>SEALING BAKED ENAMELS (for Acrylic only)</b>		Spray 2 medium coats of Dulon Blending Clear, allow 30 mins dry. Do NOT sand the blending clear. This oper- ation is only required using Acrylic lacquer over baked enamel.		
<b>STIRRING</b>	Prior to thinning, stir thoroughly to obtain a uniform mixture, using a flat stirring stick, not dowelling. Stir using an up and down scooping action. This is particularly import- ant with metallic colours.			
<b>THINNING</b>		Thin 1 part Dulon colour with 1½ parts Dulon Acrylic Lacquer thinner and stir thoroughly. This can be measured on a stirring stick. For low opacity colours, thin initial coats equal part thinner and colour.	Thin 1 part Duco colour with 1½ parts Duco All Weather thinner and stir thoroughly.	Thin 5 parts Dulux Colour with 1 part Dulux spraying thinner and stir thoroughly.
<b>STRAINING</b>	Strain thinned paint through a fine mesh, e.g. 2 or 3 thicknesses of nylon or stocking gauze.			
<b>TAC RAG</b>	Dust off all surfaces with air and wipe immediately with tac rag, just before applying top coats.			
<b>TOP COATING</b>		Apply 3 or 4 double coats with air pressure 280–350 kPa (40 – 50 psi ) at the gun. Allow each double coat to become dull before applying further coats. Allow 4 hours drying, or preferably overnight.	Spray 2 or 3 double coats with air pressure 280–350 kPa (40–50 psi) at the gun. Allow 4 hrs. drying of final coat after allowing each double coat to become dull before applying further coats.	Spray one light coat of Dulux Spraying enamel with air pressure 350–420 kPa (50– 60 psi) at the gun. Allow first coat to dry for 15 minutes before applying a full even coat. The finish will be dust- free in ¼–1 hr, tack free in 6–8 hrs, and hard dry overnight. It is recommended to keep the vehicle under cover for one full day while the enamel hardens.
<b>COMPOUND AND POLISH</b>		Polish up with Dulux buffing compound, and Duco cleaner and Polish to obtain a high gloss.	Polish up with Duco Cleaner and Polish to obtain high gloss.	Enamel dries to a full gloss finish. Do not attempt to compound or polish as this will cause loss of gloss.