

PROVISIONAL

S E R V I C E M A N U A L

PV 444

Part 11a

B O D Y

Synthetic Painting

Export Service Dept.

AB VOLVO

US 4079/2
1000.7.55

FOREWORD

This service manual is provisional and applies until the new edition of PV 444 Part 11 is published.

This manual is concerned only with maintenance and instructions concerning synthetic painting. We should like to draw your attention to the necessity of having dust-free workshops when using synthetic paint.

AKTIEBOLAGET VOLVO

Export Service Department

DESCRIPTION

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Either cellulose or synthetic enamel may be used on car bodies, cellulose having been dominant earlier. Cellulose is an air-drying enamel, the glossy finish being obtained by polishing with abrasive and finally with non-abrasive polish.

During recent years cellulose has been replaced to a great extent by synthetic enamel. Synthetic enamel is not air-drying but is baked in an oven at a temperature of about 150° C (300°F). The glossy surface is obtained as a result of the composition of the enamel combined with the baking process. Synthetic paint requires careful technical handling, absolute freedom from dust, an even drying temperature and great care in application. The result is that the car owner has the advantage of a finish that is much easier to maintain, does not oxidize quickly and retains its polish longer. It does not need to be polished with abrasives, which always wear the surface a great deal. Synthetic enamel is also more resistant to damage from stones, gravel etc., and scratches due to its hardness and surface holding properties.

REPAIR INSTRUCTIONS

Washing

New cars should be washed often to harden the surface since it strengthens it and maintains the polish longer. Dust and dirt that fasten on the surface are damaging for the enamel. Only water should be used when washing. The use of additives dries out the enamel and makes it brittle. A 1 - 2% soap solution may be used if water alone does not give the desired result. The special car washing compounds that are available should not be used except on the recommendation of a specialist since some of them are damaging for the enamel. Rinse thoroughly with water after washing with soap solution. The car should then be polished (see "Polishing") so that the enamel regains the fat that was removed by the soap. Otherwise, wash as usual with a clean sponge and dry with a clean, soft wash-leather. High pressure rinsing with the jet directed at the body should not be employed. Washing should not be carried out in bright sunshine, especially when "hard" water is used since patches may form that are very difficult to remove.

Polishing

The polish on a synthetically-painted car is much more durable than on a cellulose-painted car. It should be polished now and then. Use only the polishes that are manufactured for synthetic paint and never those intended for cellulose. If the polish contains abrasives, the synthetic enamel surface may be seriously damaged. Do not use polish containing silicon since this is very difficult to remove before the finish is touched up if this should prove to be necessary. If there is any residual silicon on the surface that is to be touched up, bubbles can easily form. Wash and dry the car thoroughly before polishing. Never polish a dusty or dirty surface since this can cause scratches. Apply polish thinly with a soft cloth or pad. Do not spread polish over the whole car at the same time but take small areas one at a time. Then polish these with a clean cloth or pad. If polish is spread over the whole car, it may dry too much and the polishing process will be laborious without the desired result being attained. Never polish in direct sunshine since the polish will then bake fast and cause a stripy surface.

Waxing

Waxing should be carried out after polishing in the same way as for cars with cellulose enamel. Use only good quality wax. It must be absolutely free from silicon.

Touching up

Cars that are painted with synthetic enamel should also be touched up with synthetic oven- or air-drying enamel since the same raw material will maintain the same standards as far as polish, colour and durability is concerned.

In order to obtain the right colour shade when touching up or repainting, there is a code number for the internal and external colours stamped on the car chassis number plate. This code number should always be stated when ordering paint from AB Volvo or our agents

Touching up with cellulose or combination paint means inferior durability compared with the synthetic paint and a gradually increasing colour shade from the original and a different degree of gloss. This difference depends on the nature of the binding agent used and becomes obvious at a later date even if the colours agree exactly immediately after the touching up has been carried out.

In order to obtain a good result when repairing damage, the entire section i.e. bonnet, door or mudguard should be re-painted. The damaged section is first straightened and smoothed with a file if necessary. It is then rubbed with wet sanding paper No. 220 - 240, care being taken to ensure that all rust is removed and any remaining paint is well worn down. Then wash thoroughly with pure petrol (not fuel containing bentyl). This washing is very important since it removes all impurities that might have a bad effect on the drying and holding properties of the finish.

The surfaces in question are then painted with primer (synthetic air-drying) that has been diluted with thinner to about 20 secs. at 20°C (68°F) in a Ford No. 4 beaker. The primer should be of the same make as the enamel.

After 2 - 3 hours air-drying, the required amount of synthetic undercoating is applied. Spread in thin layers and allow the stipulated drying time between each application. Allow 2 - 3 hours drying time after applying the last coating and then rub, first with wet sanding paper No. 320 and then with wet sanding paper No. 400.

After all the water has been carefully removed, wash again with petrol and dry with the special cloth for the purpose. After this preliminary work, the surface enamel is then applied.

The most important factor for perfect touching-up is that the colour matches exactly. Even when synthetic enamel is used, it may be necessary to modify the shade somewhat since the original colour always changes slightly in time even if the change is not so obvious as with cellulose.

In order to check the colour match, first spray a plate and allow it to dry before comparing it with the original colour. If there is any colour shade variation, vary the shade accordingly and then spray a new trial plate. When complete agreement between the colours has been attained, the enamel is ready for use.

In order to carry out perfect touching up with air-drying synthetic paint, it is extremely important that the equipment used and the workshops are clean and free from dust. There should be no strong air currents in the workshop and both spraying booths and other parts of the painting shop should be kept wet.

The synthetic touching up enamel should be diluted with synthetic thinner to a viscosity of 18 - 20 secs. at 20° C (68° F) in a Ford No. 4 beaker. The enamel is sprayed on in three coats and is dried either overnight or for 1½ hours at 60 - 70°C (140° - 160°F). In order to obtain a good hardness, it should be aged for a further 24 hours in air but not in direct sunshine.

It should be pointed out that touching up with synthetic paint is, technically speaking, the best solution and should always be used when possible. Touching up with cellulose or combination paints should only be adopted as a last resort.