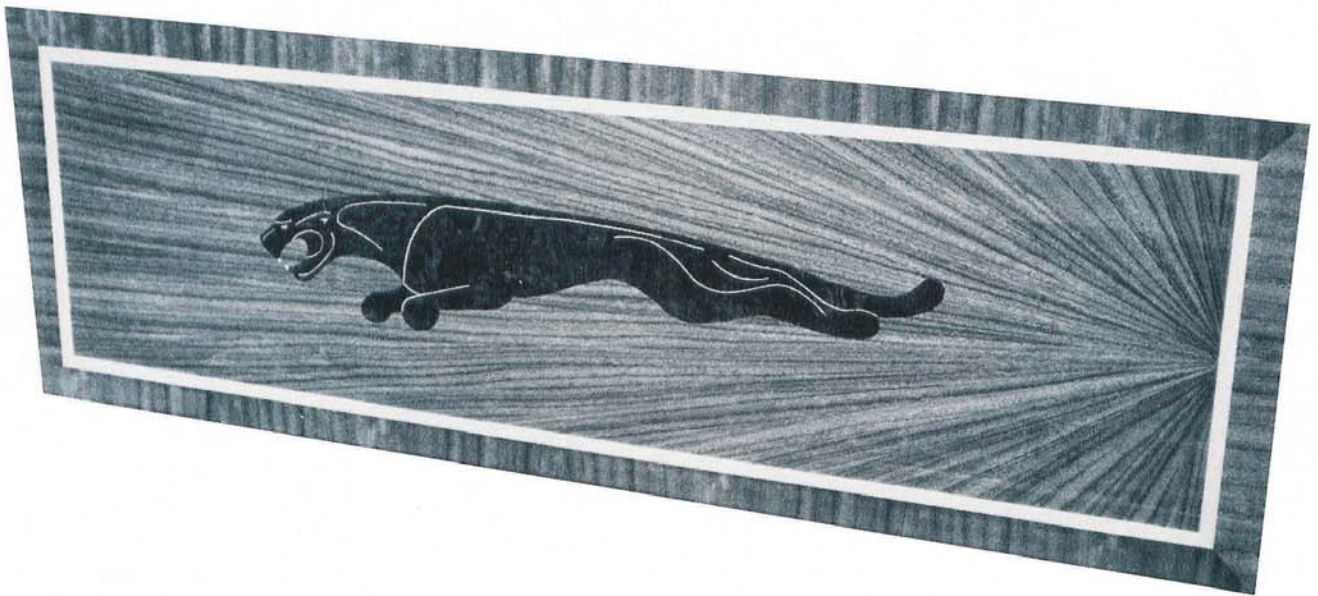


Ciba-Geigy glues for Jaguar veneer bonding



The quality and finish of veneered facias for Jaguar cars have long been admired throughout the world. The timber, the veneers, and the adhesive used must withstand widely varying conditions of use and in order to retain their beauty must, therefore, be of the highest quality. Jaguar Cars Ltd, Coventry have a history of using the finest timber since they first formed as the Swallow Sidecar Company in 1922. Since then, times and methods of construction have changed but the use of quality timbers and high levels of craftsmanship have continued.

Nowadays, Jaguar Cars Ltd specify Finnish 'all Birch' plywood and Honduras mahogany as the base materials for all polished interior fittings for their limousines. Aerolite urea-formaldehyde wood glues are widely used for bonding veneers to these base timbers though considerable work has been done with other Ciba-Geigy adhesives for applying timber veneers to aluminium, steel and various plastics.

Mahogany is used for the Daimler limousine and the

Daimler Vanden Plas saloons with walnut burr veneers and, for the door fillets, boxwood inlay. This inlay, when coated and polished, gives a gold strip effect. To produce the high quality required for the Daimler and Jaguar cars, American walnut veneer is generally used with Anegré veneer as an underlay. Other veneers such as Makoré, Bossé, Sapele and African walnut are also used as under veneers. The actual burr is caused by a growth, or fault, in the walnut tree-trunk. In the North American tree these faults quite often encircle the trunk and this gives large useable areas of high quality burr. The wood is very twisted and knotted, giving beautiful effects to the veneer. The 'Burr-Butts' (the trunk just above the real burr) are less twisted and more of the grain line is visible. The burr arrives already pre-cut into 'fletches'. These are sets of 32 leaves all from the same part of the tree. With this continuity between the veneers in the fletch it is possible to mirror match and great care is taken to obtain the veneer symmetry which is such a feature of the fascia panels produced.



1 Mirror matching burl walnut veneer before laminating with Aerolite

Production

The first operation is to cut the base birch plywood to size and to select, cut and mirror-match the burl walnut veneer. The Anegré veneer is also prepared. Aerolite urea-formaldehyde wood glue is applied by roller coater to the plywood and the underlay of Anegré veneer is laid to both sides. A further application of Aerolite is needed to secure the walnut facing veneer. Flat panels are placed in batches of 32 in a multi-daylight press and the Aerolite adhesive cured for ten minutes under heat and pressure.

Quite a lot of the work done in the sawmill requires veneers to be laid on curved surfaces. Shaped Mahogany pieces for division rails and profiled door trims are typical. The Aerolite glue is applied, the veneers laid and the assemblies placed in a vacuum dome press. This uses a thick rubber blanket to form over the shape and a vacuum provides the pressure needed to obtain an even and successful bond.

Facia panel boards are marked out and the outside shape machined to profile. A belt sander is used to clean up the surfaces. This is controlled by

hand to ensure an even smoothness although there are variations in the roughness of the veneer surface.

Using a special jig, an operator routers out the inner profile of the facia e.g. the spaces for the speedometer, rev. counter etc. The facias are then given another smoothing operation with the belt sander and a final sanding by hand. Any flaws in the veneers are rectified and retouched by hand.

The finishing of the veneered facia panels, door trims, cocktail cabinets etc involves sealing with a poly-

2 Aerolite adhesive being applied by roller coater to the plywood base



3 Laying veneer onto the Aerolite coated plywood





4 Placing the panels in the multi-daylight press



5 Veneered door trim in the vacuum press



6 Routing out the inner profiles of a facia panel

urethane compound followed by an overcoat of polyester resin. The latter is sprayed by hand and the technique and skill of the operator is of paramount importance. The panel is left with a dimpled finish which is removed by flattening, firstly by machine and then by hand. This leaves the veneer with a dull appearance. The final, top quality appearance is achieved by machine mop polishing.

Quality control

Apart from rigorous quality control of all raw materials, every panel and moulding is inspected at each stage of

production and a final inspection is made after polishing. The sawmill makes up about twenty five different components for each limousine all of which must match in shade and grain. The diverse needs of production requires that all these parts are made at different times and in different parts of the mill. Each set of parts must be carefully collated requiring a tightly controlled logistic system.

7 The final touches are given to a cabinet

