

Restoring a... Georgian desk

Chris Tribe repairs the flap, replaces cockbeading, restores the sides and sorts out the rail jointing

This bureau belongs to a 94-year-old lady who unfortunately fell on the lowered flap, breaking it at the hinges. I was asked to repair the flap and replace some cockbead. Once I had the piece in the workshop I found that the drawers were in a fairly bad state and the bottoms of the sides were badly worn.

Some remedial work had been undertaken previously, but this had made things worse. There were also some problems with the jointing of the rails to the sides and a vertical split in one of the sides, plus some other odds and ends. I revised the estimate for the cost of the work and cleared this with the customer.

Construction

I would estimate that the bureau is George III period. The carcass sides appear to be solid if bland mahogany (*Swietenia macrophylla*) – it was common for the sides of pieces to be of lesser quality as they were less likely to be on show.

The top and the interior document surface are mahogany veneer on an oak (*Quercus robur*) substrate. The veneer was of a good thickness, varying from around 1.5mm to 2mm, indicating age. The interior is well fitted with drawers and pigeon holes.

The flap hinges down to rest on lopers that slide out from recesses at either end of the top drawers.

The main drawers run on pine dust boards along the width of the carcass and are housed into the sides. The boards are secured by kickers tapped into the housings on the underside of the boards.

The back consists of vertical deal boards nailed on. The drawer sides and bottoms are not of oak or pine, as one would expect, but a wood I had difficulty identifying – it may have been elm (*Ulmus spp*).

Glue types

Animal (hide) glue, see pages 32-37, should be used when re-gluing old woodwork or as a result of removing new repairs and reworking them. Modern PVA can be used on new replacement wood which is part of the fabric of the piece, but it is better to use animal glue throughout.



PHOTOGRAPHY BY CHRIS TRIBE

Repairing the flap



1 Damage to left hand of flap; note worn screw holes

The flap had broken at the hinge on the left and the hinge had broken from the interior on the right. There had been a previous breakage at this point – repaired with a nail, *photo 1*. This meant that the break was not clean so the repaired fit would not be perfect.

After removing the nail the broken piece was carefully cleaned of old glue using meths and warm water, then glued and clamped into place.

One of the hinge screw holes was on the line of the break so there was a danger of the repair being weakened when the screw was replaced. All the screw holes were badly worn and had been plugged, so 6mm dowels were inserted from the edge of the flap to coincide with the position of the screws and then trimmed off with a chisel, *photo 2*.

This helped to stabilise the repair and gave more for the screws to bite into than inserting a dowel into the screw hole. When in position the edge of the flap is angled downwards, so the dowels are not evident.

Interior damage

At the other hinge point the damage was to the interior. The break had occurred at the line of the two front screws of the

hinge, breaking away the 4mm-thick mahogany lipping and some of the oak substrate, *photo 3*.

I decided to recess a new piece of oak underneath the veneered surface. This meant using the router running on the edge of the board, a tricky operation requiring packing and jiggging.

I started by turning the bureau onto its back. Clearance for the router fence was created by clamping a wide board to the interior surface of the bureau.

To provide a stable surface for the router to run on, a piece of 9mm MDF with a hole in it to provide access to the area to be cut was clamped to the front of the bureau, *photo 4*. A replacement piece was cut with angled ends and fitted by trial and error to the cleaned up recess, *photo 5*. Because of damage round the screw holes the area around them was replaced, *photo 6*.

Substrate

Some of the substrate behind the 4mm lipping had broken away so I ensured that the piece fitted snugly around the previously fitted oak piece, clamping with a small G-clamp and an oak wedge, *photo 7*, then replaced a small strip of veneer adjacent to the hinge.



2 Trimming off the dowels inserted to strengthen repair to left of flap



3 Damage to hinge point at right side



4 Preparation for cutting recess to repair broken hinge area



5 Clamping on the replacement



6 Clamping additional piece around screw area



7 Improvised edge clamp

Carcass repairs



8 Clamping the injected rail joints

The fit of the drawers was slack, vertically due to wear in the drawer bottoms and running surfaces and horizontally due to the sides detaching from the front rails.

The rails are only retained by quite short housings into the side pieces. I decided to inject animal glue into the joints and clamp. Using a 1.5mm drill bit and choosing an unobtrusive location I drilled into the joint until I felt the drill hit a void. Animal glue was injected via syringe and needle into the joint and the sides clamped, *photo 8*.

Missing kicker

An issue probably related to the loose side joints was a missing kicker on one of the housings between the dust boards and the side. This was shown by the dust board dropping in its housing, thus increasing the slackness of the drawer, and was corrected by fitting a 25mm-wide piece of oak into the housing below the dust board. The piece was glued and held using sprung lathes, *photo 9*.

Vertical split

The left side had a vertical fairly straight split from top to bottom where the boards had parted.

After cleaning any debris and wax from the opening a fillet of mahogany was planed up to fit, catering for the slight taper from top to bottom. The fillet was also tapered slightly in width to gently wedge into the split. The fillet was glued and tapped home, leaving a small amount standing proud to be removed with block plane and scraper after the glue had set, *photo 10*.



9 Kicker being glued in place; sprung lathes hold it in place

Glue injection

I used a needle from the local vet, the sort he uses on horses. For more delicate jobs, like re-laying veneer, a hamster needle may be more appropriate.

“Ideally all new work should be clearly identifiable and be able to be undone if a future owner wishes the object to be returned to ‘original’ state”



10 Vertical fillet fitted to left-hand side

Drawer repairs

Because the drawer sides were only 7-8mm thick and the bottoms were much thicker than that, there was considerable wear and break up at the bottom of the sides. To remedy this, a previous restorer had nailed some pine runners to the bottom, *photo 11*. The pine had worn to allow the nails to excavate grooves in the runner boards, *photo 12*, causing the drawer stops to wear wide grooves in the bottoms, *photo 13*.

To remedy these problems I decided to fit oak fillets on the dust boards and to replace the bottoms of the drawer sides in order to provide good running surfaces for the drawers and lift them up to prevent wear to the bottoms.

Using a shoulder plane a groove was excavated next to the carcass side. To ensure a clean edge to the groove, a marking knife was used to cut the fibres at the edge, using the plane edge as a guide for the knife.

The groove was deepened until a flat bottom was achieved, about 3mm, and a 3mm fillet was glued into the groove and held using sprung lathes, *photo 14*.

Drawer sides

The repair to the drawer sides required the removal of the worn or broken bottom parts, leaving a clean line for fitting a new piece, achieved by using a router with guide collar running against a straightedge of 9mm MDF clamped to the drawer side so that the edge was parallel with the top edge.

The cut was made with the collar bearing against the MDF, *photo 15*. The depth of cut depended on the amount of damage to the side, in effect cutting the side in line with the underside of the drawer bottom.

A couple of the sides had damage higher up which required a shallower cut to remove an L-shaped area, *photo 16*.

Oak pieces were used to replace the cutaway sections and rebated pieces were machined, marginally oversize to allow for trimming to fit, to fit the cutaways. After gluing up the drawers were fitted.



11 *Worn and damaged drawer sides and nailed runner*



12 *Grooves worn in dust boards by drawer runners*



13 *Damage to drawer bottoms from rubbing on stops*



14 *Fillet glued in place on dust boards using sprung lathes*



15 *Cutting bottom of drawer sides with router collar bearing against MDF straightedge*



16 *L-shaped area removed from bottom of badly damaged drawer side*

< Cockbeading

The 3mm thickness of the cockbead on this piece made it more prone to damage and the lower ends had almost no bead left. The rounding was formed using a block plane and abrasive paper, *photo 17*.

Damaged areas were removed and new bead spliced in, *photo 18*. I mitred the corners by making a jig from stock cut at 45° and clamped to a saw hook, *photo 19*.



17 Replacement cockbead



18 Cockbead repair around lock after refinishing



19 Makeshift mitre jig

Touch up and colour out



20 Colouring with a quill

The whole piece was carefully cleaned to remove grime and wax from around the repaired areas, using white spirit.

For the mahogany a dilute light fast mahogany spirit stain was applied to achieve an initial colour then a light coat of button polish applied with a rubber – Ed's note: a water stain would be more reversible than a spirit stain.

Final colour matching was now possible using spirit stains and earth pigments mixed in a thin dilution of button polish and meths applied with a quill, *photo 20*.

A coat of thin button polish was applied with the quill followed by more applications with a rubber to blend with the background, *photo 21*, and an application of mahogany antique wax

was followed by buffing with a duster to bring up a nice glow.



21 Careful finishing retains the patina

Conclusion

Restoration requires reconciliation of conflicting concerns. How radical should you be in repairing, possibly correcting, bad original design, against retaining the integrity of the original maker?

How far do you go to repair every single defect, against the time and profit considerations of the business and the need to allow the wear of centuries to be evident? I hope that balance has been maintained in the work undertaken on this piece.

Editor's note

I believe there are two questions that the restorer must ask before he/she starts work.

1. Will what I am about to do damage the original object? An example is replacing lots of timber and joints: this would strengthen the item but damage its integrity. The original timber and joints would be lost forever, perhaps also the polish – not to mention a large part of the financial value of the object.

2. Can my work be reversed in the future?

Ideally all new work should be clearly identifiable and be able to be undone if a future owner wishes the object to be returned to 'original' state.

The debate about the philosophy of restoration and conservation is a long one and we haven't space here to devote to it but if anyone is unsure about work that they want to undertake I am only too happy to comment on photographs of the project and their treatment proposals for it.

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