STEP BY STEP INSTRUCTIONS

FOR PINNED HANDLES AND **SOLDERED GUARDS**

MATERIALS	**TOOLS:**
BLADE	
GUARD	SCRIBE
DRILL BITS	DRILL
MASKING TAPE	FILES
PINS	JEWELERS SAW
EPOXY	VISE
SANDPAPER (200-600 GRIT)	BALL PEIN HAMMER
HANDLE MATERIAL	

1. SELECT MATERIALS AND TOOLS REQUIRED FOR YOUR CUSTOM KNIFE. **READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING.**
2. SAND FLAT THE SIDE OF YOUR GUARD THAT WILL FIT NEXT TO THE HANDLE MATERIAL TO INSURE A GOOD FIT. PRE-SHAPE THE GUARD FRONT (THE SIDE NEXT TO THE BLADE) AND POLISH. NOW SCRIBE A PATTERN IN THE DESIRED SHAPE ON THE FRONT OF YOUR GUARD TO USE LATER IN SHAPING AND FINISHING THE GUARD AND HANDLE MATERIAL INTO ONE. THIS IS EASIER TO DO BEFORE YOU SOLDER YOUR GUARD PIECE TO THE BLADE.
3. SLIDE GUARD ONTO BLADE CHECKING FOR PROPER FIT. IT MAY BE NECESSARY TO REMOVE A SMALL AMOUNT OF MATERIAL FROM EACH SIDE OF SLOT WITH A FILE TO ASSURE PROPER FITTING. GUARD SHOULD FIT AGAINST BLADE TIGHTLY ON ALL SIDES.
4. SOLDER GUARD TO BLADE. WE RECOMMEND A LOW TEMPERATURE SILVER BEARING SOLDER SUCH AS OUR STAY-BRITE. THIS ADHERES WELL TO THE GUARD AND BLADE WITH LITTLE CLEAN UP. READ INSTRUCTIONS THAT COME WITH YOUR SOLDER KIT. SAND AREA OF BLADE THAT WILL BE SOLDERED WITH A 220 GRIT SANDPAPER. THIS WILL ASSURE A GOOD ADHESION (BE CAREFUL NOT TO SAND OR SCRATCH ANY AREA THAT WILL NOT BE COVERED). POSITION GUARD ON THE BLADE AND CLAMP INTO PLACE. PLACE TANG OF BLADE INTO VISE (KNIFE POINT WILL BE STRAIGHT UP), ALLOW ROOM TO WORK TORCH ON BOTTOM SIDE OF GUARD. PLACE TWO PIECES OF SOLDER (1/4" OR SO IN LENGTH) ON EACH SIDE OF THE TOP OF THE GUARD TOUCHING BLADE. STAY-BRITE FLOWS AT 435 DEGREES, BE CAREFUL NOT TO OVERHEAT AS THIS MAY REMOVE SOME OF THE HARDNESS FROM YOUR BLADE. KEEP THE HEAT UP AWAY FROM THE BLADE AREA. USING A PROPANE TORCH, HEAT THE ENTIRE GUARD EVENLY. AFTER THE FLUX HAS BOILED AND THE SOLDER BEGINS TO FLOW, MOVE THE TORCH TO THE DOWN SIDE OF THE GUARD. SOLDER FLOWS TOWARDS HEAT, SO HEATING THE UNDER SIDE WILL PULL THE SOLDER INTO THE JOINT BETWEEN THE BLADE AND THE GUARD. IT MAY BE NECESSARY TO MOVE THE TORCH FORM ONE SIDE OF THE GUARD TO THE OTHER AFTER THE FIRST SIDE BEGINS TO FLOW. WHEN ALL SOLDER HAS FLOWED INTO JOINTS, REMOVE HEAT AND ALLOW TO AIR COOL FOR SEVERAL MINUTES ALLOWING THE SOLDER TO HARDEN. REMOVE CLAMP AND CHECK SOLDER. WHEN JOINT LOOKS GOOD WITH SOLDER SHOWING ON BOTH SIDES YOU ARE READY FOR THE NEXT STEP.
5. COVER SHARP EDGE OF BLADE WITH MASKING TAPE. THIS WILL PROTECT YOU AND THE BLADE.
6. MARK THE SIDE OF YOUR HANDLE MATERIAL THAT WILL FIT NEXT TO TANG BEING CAREFUL TO MATCH ANY COLOR PATTERNS THAT YOUR MATERIAL MAY CONTAIN.
7. FIT HANDLE MATERIAL TO GUARD BY FILING AND SANDING UNTIL YOU HAVE A GOOD SQUARE FIT WITH **NO GAPS** OR LINES SHOWING. DO BOTH PIECES.
8. LAY BLADE ON HANDLE MATERIAL CAREFULLY MAKING SURE IT LIES SQUARELY AND TIGHTLY AGAINST YOUR GUARD. SCRIBE OUTLINE OF BLADE ONTO HANDLE, YOU MAY WISH TO CLAMP FIRST SO THE HANDLE WILL NOT SLIP. REPEAT WITH SECOND PIECE OF HANDLE MATERIAL USING OPPOSITE SIDE OF THE TANG.
9. LEAVING SLIGHTLY OVERSIZE, REMOVE EXCESS HANDLE MATERIAL WITH JEWELERS SAW, BELT SANDER OR OTHER MEANS AVAILABLE. **DO NOT OVER GRIND.**
10. USING 220 GRIT SANDPAPER, SAND THE HANDLE MATERIAL FLAT ON THE SIDE THAT WILL FIT AGAINST TANG OF BLADE. SAND THE TANG OF BLADE WITH SAME PAPER. THIS WILL REMOVE ANY FOREIGN MATERIAL AND ASSURE A GOOD ADHESION OF BLADE TO HANDLE MATERIAL.
11. CAREFULLY ATTACH ONE (1) PIECE OF HANDLE MATERIAL TO TANG OF BLADE WITH EPOXY. MAKE SURE THE HANDLE MATERIAL IS CENTERED PROPERLY. CLAMP AND ALLOW EPOXY TO SET. YOU MAY WANT TO ALLOW DRYING OVERNIGHT.
12. USING PIN HOLES IN BLADE AS A TEMPLATE, DRILL HOLES WITH PROPER DRILL BIT. BE SURE TO DRILL IN CENTER OF HOLES WITH PROPER DRILL BIT. BE SURE TO DRILL IN CENTER OF HOLES, DRILL SLOWLY AND CAREFULLY SO YOU WILL NOT SPLINTER HANDLE MATERIAL. (A DRILL PRESS IS BEST IF AVAILABLE) **EXTREME CAUTION** IS ADVISED WHEN USING YOUR BLADE AS A PATTERN FOR DRILLING HOLES. BE SURE THE BLADE AND HANDLE MATERIALS ARE CLAMPED SECURELY AND THE BLADE IS PROTECTED WITH TAPE TO HELP PROTECT THE OPERATOR FROM BEING CUT OR OTHERWISE INJURED IF THE DRILLING OPERATION TRIES TO TWIST OR GRAB THE WORK OUT OF THE VISE.
13. REPEAT STEP 11 USING SECOND PIECE OF HANDLE MATERIAL.
14. DRILL HOLES FOR PINS AS IN STEPS 12 & 13 USING HOLES THROUGH HANDLE MATERIAL AS GUIDES. HOLES MUST BE DRILLED STRAIGHT AND PROPERLY CENTERED FOR PINS TO FIT CORRECTLY.
15. INSERT PINS THROUGH HOLES DRILLED IN HANDLE MATERIAL. IT MAY BE NECESSARY TO POLISH YOUR PINS AND THONG HOLE TUBING WITH EMERY CLOTH TO ASSURE THEY WILL SLIDE IN AND OUT OF THE HOLES EASILY. THEY SHOULD BE SNUG, BUT NOT TIGHT ENOUGH TO RISK CRACKING THE WOOD WHEN PUSHING IN OR OUT.
16. MIX A SMALL AMOUNT OF EPOXY. ROLL PINS IN EPOXY. INSERT PINS IN HOLES. ALLOW TO DRY UNTIL SET. EXCESS PIN MATERIAL WILL BE SANDED OFF WHEN SHAPING AND BUFFING THE HANDLE.
17. YOU ARE NOW READY TO SHAPE YOUR GUARD AND HANDLE INTO ONE. POWER TOOLS SUCH AS BELT SANDERS AND DREMEL TOOLS WITH SANDING DRUMS AID GREATLY IN SPEEDING UP THE SHAPING AND ROUGHING WORK. HOWEVER, FINAL HAND SHAPING AND SANDING PRODUCE THE BEST RESULTS. USING A FILE, A HALF ROUND SECOND CUT WORKS GREAT, SHAPE YOUR HANDLE AND GUARD TO THE DESIRED SHAPE, FITTING YOUR HAND. SAND WITH SANDPAPERS, FINISHING WITH A 600 GRIT WET DRY. IF A POLISHED LOOK IS DESIRED, BUFF WITH A MUSLIN WHEEL AND WHITE ROUGE.
18. REMOVE MASKING TAPE, CLEAN AND SHARPEN YOUR KNIFE TO A KEEN EDGE.