Comprehensive Guide to Handling Jewelry Repairs

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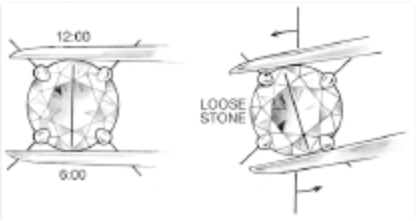
rotating the item 360 degrees, you can see the girdle, the table, the crown facets, and sometimes the lower pavilion side (between the girdle and culet) of the stone. Colored stones after hard wear can become abraded. Abrasion usually shows up first on the junction of the facets of the stone and appears to be a fuzzy smoothing of the surface unlike the original clear crispness that the stone once had. If the abrasion is not too bad, the stones can be taken out of their settings and polished to look like new with minimal weight loss.

Chips and cracks can also be underneath a prong, channel wall, or chevron tip. If an inclusion is found in one of these areas, there is a slight chance that the stone is broken. Normally, you cannot tell if the stone is broken until it is pulled from the setting.



Detecting Loose Stones

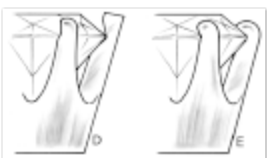
Loose stones are detected with your tweezers. While rotating the tweezers in the two checkpoint positions, look at the stone's table. When a stone moves, you can usually detect movement of light. With experience, you can detect the movement through the tweezers grasp on the stone.

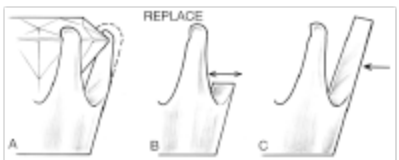
Detecting Worn Prongs

Examine all the prongs closely on the item you are inspecting. Generally if one prong is worn, there are several others that also are worn. Worn prongs are usually thin and flat, leaving very little metal to hold the stone securely in place.

Prongs can be cracked, generally in the middle or lower half of the prong. If this is the case, they need to be replaced.

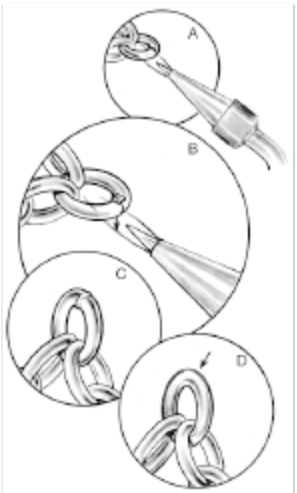
Prongs can be bent or raised up. When a customer complains of snagging, this is usually the problem. These prongs need to be straightened or re-tipped.





Overview of How to Make Repairs

Soldering



What Is Soldering

Soldering is the joining of metals through the use of heat and a filler metal (solder) that has a melting point that is lower than the melting point of the metals to be joined. Heat is applied to the area of the joint. The solder is then brought into contact with the heated parts. The solder melts instantly and is drawn by capillary action through the entire joint, creating a strong permanent bond between the two metals.

In most cases, gold-filled and gold-electroplated jewelry cannot be soldered without discoloring the surface of the metal. This type of jewelry may be stamped 12 kt rolled gold, 1/20GF, or HGEP. Look for stamping over the entire piece.

Transference of Heat and its Effects

When jewelry has to be soldered, heat must be applied to the area of the solder joint. Metal is a good conductor of heat, so any heat that is applied will reach most areas of the jewelry. Excessive heat can damage some stones. If a ring contains heat-sensitive stones, they must be removed prior to soldering.

Effects on Hollow and Ultra-thin Jewelry

When heat has to be applied to hollow or thin jewelry, one must use extreme caution. Often, a jewelry item which is thin or hollow cannot be heated safely. When metal is hollow or thin, it is more likely to melt or distort its shape when heat is applied. Hollow jewelry items are usually made by machines that apply minimal heat during the process. Most jewelers do not have this type of equipment.

Heat-sensitive Stones

Clarity-enhanced diamonds, pearls, emeralds, cubic zirconia, onyx, turquoise, lapis lazuli, citrine, topaz, amethyst, opal, and most synthetic stones are heat-sensitive.

How Heat-sensitive Stones are Handled in a Repair

Heat-sensitive stones usually can be left in the settings during ring sizing, provided that they are coated with a special heat resistant chemical mud. If prong work or other soldering is needed closer to the stones, they must be removed for safety, along with any adjacent heat-sensitive

Half Shank

A half shank is put on the same way as the full shank, except that the half shank runs only to the middle of the ring.

Quarter Shank

A quarter shank replaces the lower third of the ring's shank. You are charged for full shanks, half shanks, and quarter shanks based on the widest width of the shank.

Inside Ring Sizers

If a person has a large knuckle and a small finger, the ring worn on that finger will spin. The ring has to be large enough to fit over the knuckle. To keep the ring from spinning, the customer can have an inside ring sizer installed.

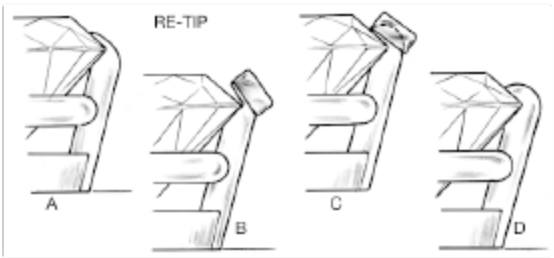
Horseshoe Sizer

Inside ring sizers are sometimes called horseshoes, due to the fact that they look like a horseshoe inside of a ring shank. An inside ring sizer is made out of white gold because white gold has sturdier and springier characteristics. The horseshoe-shaped sizer is soldered to the inside of the bottom of the ring shank with the open end of the sizer near the top of the ring. With a sizer installed, one can slip the ring over a large knuckle. When the ring goes down on the finger, the sizer springs back and conforms to the smaller size of the finger.

If a ring sizer is to be installed, measure the knuckle of the finger where the ring is going to be worn. The size should be slightly tight to get over the knuckle. Once this size is noted, the jeweler will size the ring up 3/4 size and then install the inside ring sizer. Sizing the ring up 3/4 size allows the sizer to work properly.

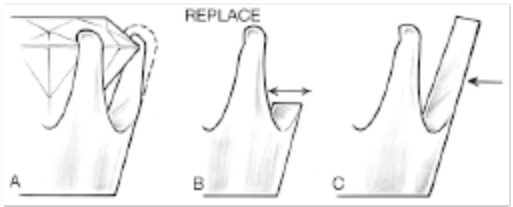
What Is Re-tipping

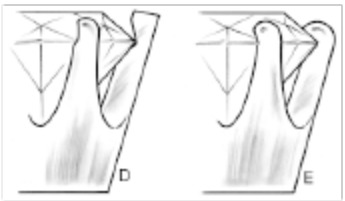
Prongs that are worn on the upper half (above the seat) can be re-tipped rather than replaced. Re-tipping a prong means that a wire is soldered to the bottom (good half, just above the seat) of the existing prong. Then the newly re-tipped prong is laid over the stone.



To be re-tipped, the prong has to be bent away from the stone. During this step, if the metal is fatigued, the prong may break off. If this happens a new prong has to be put on and a new seat has to be cut. You cannot foresee this problem.

If a prong is cracked or broken off, a new prong has to be installed. The seat is cut and laid over the stone.





How to Handle Heat-sensitive Stones

Heat-sensitive stones were previously discussed. When a prong is re-tipped or replaced, any heat-sensitive stones or clarity-enhanced diamonds have to be removed. You can run the risk of prong breakage and chips or cracks in stones that were under the prongs becoming exposed. These are unforeseen problems.

Cabochon-cut stones (smooth and rounded on the top) often react differently to heat than faceted stones. It is wise to remove cabochon stones (even ruby and sapphire cabochons) prior to re-tipping.

Chain Repair

Soldering Breaks

Broken chains are first untangled then cleaned and steamed thoroughly. The break is filed neatly so that when the two broken ends are soldered they will fit as closely as possible. If a chain is badly crimped, it is best to cut out the bad part and solder the chain shorter.

Fine mesh chains, herringbones, "S" link, small-link style, and smaller rope chains will generally be stiff at the solder point. If a chain is badly kinked or has multiple weak spots that need to be soldered, recommend a new chain rather than repairing the old one.

Types of Clasps

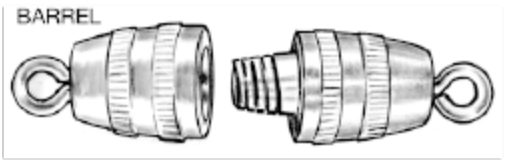
Several types of clasps are available.

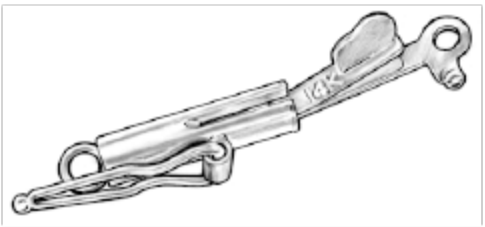
Spring Ring Clasp

The most common type is a spring ring clasp with a jump ring holder. A spring ring clasp is a hollow circular tube of gold with a slight space that has a sliding bar which seals the space. The slide has tension on it to keep it closed via a steel spring mechanism located inside the tube. Spring ring clasps cannot be soldered. If the spring ring clasp is heated, it will ruin the tension of the steel spring. A jump ring is a small piece of gold wire that is bent into the shape of a circle where the ends touch. Jump rings can be soldered closed or left unsoldered.

Barrel Clasp

A barrel clasp has a male (springy metal tongue) which fits inside the round (barrel shaped) female end. The sides opposite of the male/female join are attached to each end of the chain, either by jump rings or being directly soldered to the clasp. Barrel clasps usually have a figure eight safety soldered onto the female portion of the clasp that slips over a small ball on the male portion of the clasp, holding the two ends securely together.





Refinishing

High-polish Finish

A high-polish finish is a mirror-like finish. It requires taking a very fine layer of gold off of the jewelry. This is done by buffing the piece with a cotton wheel impregnated with a buffing compound. The wheel is attached to a motor and spins several thousand times per minute. If a piece of jewelry has deep scratches, it must be filed smooth prior to buffing.

Stone Finish

A stone finish is applied to metal using a special rubber disc, which is impregnated with coarse abrasives and rotated at a very high speed. The surface of the metal is dulled at different angles, resulting in a somewhat frosted appearance on the metal. This type of finish hides scratches much better than a high-polish finish.

Florentine Finish

A florentined finish is applied to metal by cutting criss-crossing lines across the surface. This is similar to a stone finish except that the texture looks more consistent.

Sandblast Finish

A sandblast finish is applied to the metal by using a sandblaster. A sandblaster sends small sand or glass beads out of a small nozzle at very high pressure onto the metal surface. The jewelry has an even matte-type finish.

Background Finish

Background finishes are usually applied to recessed areas of jewelry. The most common is a black background. To achieve a black background finish, the most common way is to paint the recessed areas with a non-gloss enamel black paint or to apply liver of sulphur (sulphurated potash solution) to the recessed areas. Liver of sulphur is an oxidizing agent which oxidizes the surface of the metal to a darker tone and may only be used on gold and silver.

Another method used for background or highlight finishes is enamel. Enamel is prepared by applying tiny glass-colored beads to a surface and heating the metal. When the metal is heated, the glass beads melt and

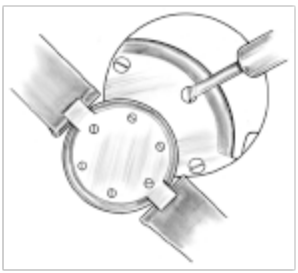
Watch Repair

General Information

Replacing watch batteries should be done with extreme caution. Never touch the small copper wire-bound coil that is sometimes exposed when you take off the back of a watch.

How to Remove and Replace Watch Backs

Screw Back Case



To remove a watch back you must have a very thin-bladed instrument, screwdriver, or an adjustable caseback hatch tool. Look at the back of the watch and see if it has screws at each corner holding it down. If so, this is called a screw back case. Using your screwdriver, remove the screws and lift the back off. Usually there is a rubber gasket around the back's edge or one is set down in a groove around the movement. To replace this type of back, make sure that the gasket is in place, rest the back on the watch, align the screw holes and retighten the screws. Be sure not to overtighten them or you might strip the screws.

Friction Back Case

If the back does not have any screws, look for a small tab extending from the caseback edge. This will be at the 12:00, 6:00, or 1:00 position. If the back has a tab, slide your blade underneath the tab and gently pry up. The back should pop off. This type of back is called a friction back and will have a rubber gasket around the edge of the back. To replace this type of back, make sure that the gasket is in place, rest the back on the watch and press down on the back. Do not apply pressure on the crystal because it will shatter under direct pressure. If a back will not go on, it should be sent to the watchmaker and he will use a special press to reseal the back to the watch.

Friction Back

A friction back has a notch in the back and case of the watch. Often these notches are very thin and difficult to see. A 10x loupe can help find the notch. Once the notch is located, insert the blade and pry it up. You might have to take off the watchband in order to remove the back. The back is put back on the same way as the tab friction back.