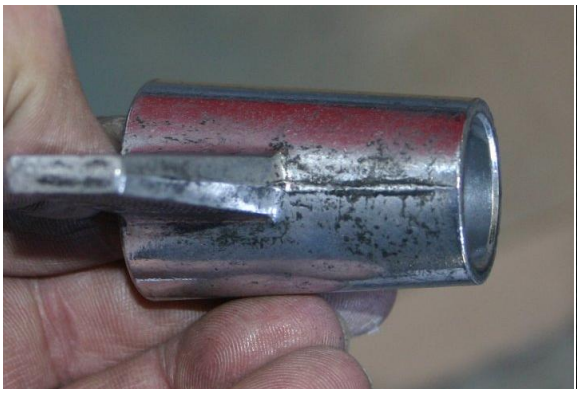
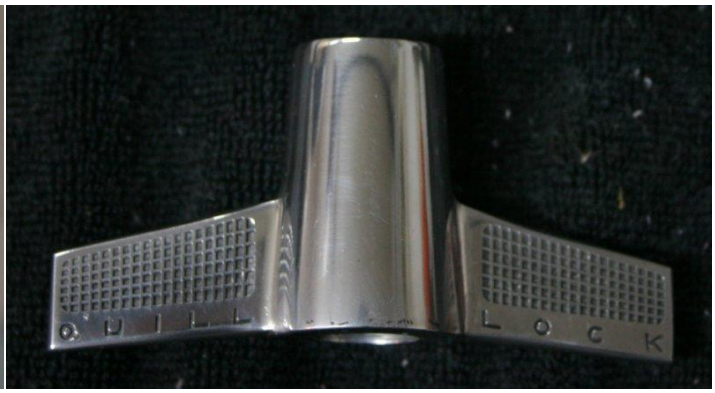
Aluminum Polishing

Adapted from Caswell's "An Introduction to Buffing and Polishing" and Caswell forum thread: "How do you eliminate black compound residue left on aluminum part"

Prep Work

1. Strip all paint
2. Save yourself some time on the buffer and start by sanding
    a. Start with 220
    b. Go to +/- 400
    c. Move up to 600
3. Be careful with mineral spirits, it leaves a residue itself
4. A piece that small you wouldn't be able to do bare handed, as it would get much too hot to handle whenthings are working the way they should. Get some gloves
5. For deep gouges, remove with 40 grit or similar sandpaper on a flat block
6. As the scratch becomes smaller, move up to 80, then 120, then 240, then 320, then 600 grit

Removing Residue

1. Clean the item with paint thinner/brake fluid or similar
2. Rake the wheel well
    a. grab a thick rag a hold it to the wheel to try to remove any residue already on the wheel
    b. re-rake the wheel
3. Continue buffing, sparingly with the emery/tripoli
    a. pits will hold any wax in them
    b. if you fail to clean the pits between each process you will continue to cross contaminate
4. Other factors could also cause this
    a. wheel saturated with compound
    b. not enough heat /friction when buffing
    c. not enough pressure or too slow
    d. sometimes working on a cold piece of aluminum could cause this
5. Be aggressive. With the correct amount of force, and speed of the wheel, that casting line would be gone in a couple passes, or at least smoothed dramatically

Buffing and Cutting

1. Apply compound approximately ½ to 1 second at a time
2. Cut and Polish Motions
    a. Results in a smooth, uniform surface that is semi-bright
    b. The work piece should be moved against the direction of the wheel
    c. Use medium to HARD pressure
    d. Too much pressure will cause the wheel to collapse and result in burn marks

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3. Color Motion
    a. Results in a bright, shiny and clean surface
    b. The work piece should be moved toward the direction of the wheel
    c. Use medium to LIGHT pressure
4. For fire scratches, star with black compound, then white
5. For finely sanded work pieces, start with white
6. For aluminum covers, start with brown. If insufficient start with black and then move to brown.

Aluminum Castings

1. For aluminum castings, the dimples in the casting must be removed first. A flat block is difficult to use on round surfaces
2. Use 80 grit greaseless compound
3. Use a spiral sewn wheel or a felt bob
4. Proceed through the various grit sizes of Greaseless unit the metal is smooth and all dimples are removed.
5. Once all dimples are removed, proceed with black compound
6. Use a clean or refreshed wheel and finish lightly with brown compound.

Compounds and Their Applications

- Black/Emery: Good for cutting. Removes scratches, pits, thin plate, paint, lacquer etc. Good compound to start most jobs with. Produces fair shine. Use with “sisal wheel” for best results.
- Brown/Tripoli: General purpose. Use for buffing and polishing soft metals such as brass, copper and aluminum.
- White Rouge: Light cutting. Used to put high shine on harder metals. Designed for chrome and nickel plate, stainless and ordinary steel.
- Blue Rouge: Less greasy version of jeweler’s rouge. Does not cut and can be used on thin gold and silver plates. Extremely high shine. Ideal for use with “white bar.”
- Stainless: Used exclusively to bring stainless steel to high shine.
- Jeweler’s Rouge: High quality coloring rouge for gold, silver, pewter, nickel and most precious metal. Use with “canton flannel” wheel for truest colors.

Aluminum Polishing

	Plastics			Silver, gold & thin plates			Nickel and Chrome Plate			Copper, Brass, Aluminum, Pot Metal & Other Soft Metals			Steel and Iron			Stainless Steel		
Buff Type	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Sisal										X			X			X		
Spiral Sewn								X			X			X			X	
Loose												X			X			X
Canton Flannel						X			X									
String	X	X	X															
Compound	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Black										X			X			X		
Brown											X							
White								X				X		X				
Blue	X	X	X			X			X						X			
Green																	X	X
Red						X			X						X			

BLACK = Emery Compound, a course abrasive material for removal of scratches, pits, paint, rust etc.
BROWN = Tripoli compound used for general purpose cut and color on most soft metals.
WHITE = Blizzard compound, used for color and final finish of harder metals, has a cutting action.
RED = Jeweller's Rouge, designed to polish without any cutting action. Safe on thin plates. Use on its own wheel.
BLUE = A dryer, almost greaseless wheel - designed to polish without any cutting action. Safe on thin plates. Use on its own wheel.
GREEN = Used exclusively for Stainless Steel.

THE THREE BUFFING STAGES

A = Rough Cut To Remove Scratches B = Final Cut & Initial Polish* C = Final Polish (or luster)
* - At Stage B, you should first use your wheel with a cutting action, then finish with a color action. See the page on Cut & Color.

From Caswell's "An Introduction to Buffing and Polishing"