



How To Make Custom Colored Gear Shift And Accessory Knobs for your Automobile

by Jack A. Biickert

In a previous article I described how to make park light lens for a 1935 Chrysler Airflow out of Crystal Clear Casting Resin. At that time I intimated to Mr. David Askey, Editor of the AirFlow Newsletter, that it was very simple to make all sorts of dashboard, gearshift and other accessory knobs that could be any solid color including the color of your car. Additionally, it is very easy to embed (inclusion cast) insignias or emblems made out of copper, brass, pewter, silver or even gold in such knobs which will personalize these knobs. Examples of such metal insignias might well be a simple "L" on the face of the cigar lighter or your initials on the top of a resin cast gearshift knob. Several of my restored cars have colored knob ends on the engine oil dipstick and the automatic transmission dipstick. This certainly delights garage mechanics.

Two years ago I decided to redo all the knobs on my "grocery shopping car".....a 1972 Cadillac. I wanted ivory colored knobs. After much experimentation, I discovered that by adding metal enamel paint to the casting resin I could achieve any color I wanted without compromising the catalytic hardening action. In fact, I was even successful with automotive touchup spray can paint which I puddled on a piece of cardboard so that it could be spooned up and added drop by drop to the resin mix. I am suspicious that acrylic or latex paint might not mix well with the resin. Metallic enamels do not polish up as shiny as regular enamel paints because of the micro particles of metal in the paint. However, any metal enamel paint in cans or spray cans will work. In fact, TREMCLAD rust paint is an excellent color agent. The Gloss Black and Red will give you the best shiny black or red knobs. 1983 Ford Cream Yellow automotive touchup paint (aerosol spray can) will allow you to blend a wide range of beautiful ivory shades. Adding white

enamel will also allow you to tone your base color. Use a small Dixie cup to do your color toning before adding it to resin (see Photo #1). (Note to the Editor: Photo "A" is included to illustrate examples of colored gearshift and cigar lighter knobs which won't show at all in black and white in the newsletter.... But at least you can see that the process works).

When do I add the paint coloring?

Do a rough estimate of how much resin you need to fill a particular mold. It is a good idea to be a little generous here to ensure your colored batch will indeed fill the mold. Add the paint color to the resin in very small batches and stir to check the color intensity. It doesn't take much. Use a popsicle stick and dip it about 1/2 inch into your paint source and then whatever sticks to it transfer into the resin you have measured out into your small mixing pot. (A clean laundry detergent scoop is ideal for mixing the resin, paint and catalyst see Photo #1). This much is enough to color up 1 to 3 ounces of resin. If you need more paint color, use a fresh popsicle stick and repeat the process. Don't contaminate your can of paint with those sticks you used to stir the paint into the resin. Once you have achieved the desired color intensity you are then ready to add and mix in the catalytic hardener (use an eye dropper) to the colored resin and then to pour the mix into your mold.

Embedding metal emblems, letters, initials, etc. in a knob.

In all cases, knobs are cast upside down because they normally have an attachment bolt, screw, or nut embedded which must be shielded from the resin that is poured around them. Obviously, if you wish to embed a metal object and have it show up on the face of the knob, you must place it face down in the bottom of the knob. Figure 1. illustrates the side view of how to pour a gearshift knob. It also illustrates a metal insignia placed in the bottom of the Christmas glass ornament ball. In this case , the insignia is a stylized Airflow letter "A" which is made out of 1/8 inch brass stock. A silver dollar is ideal stock for making emblems, initials and letters. A set of needle or jeweler's files is required for such detailed work. A set of these is shown in Photo #1.

When you embed a round headed bolt, screw or round stock that you have drilled and tapped such as a long nut for a gear shift lever it is a good idea to flattened two sides of the bolt head or the round stock to ensure that it doesn't break loose with aggressive use and turn inside the resin knob at a later date. In Figure 1. I used hex brass stock for this very purpose. I also soldered a slightly over-sized brass cap on the end of the hex stock "nut" to keep the resin from back-filling into the threads as well as to further anchor the "hex nut". Figure 2. Illustrates how to embed a brass bolt, with 2 sides of the head flattened, in a cigar lighter knob. In the case of flat metal emblems, solder a copper wire hoop on the backside of the emblem to ensure it will be firmly anchored in the resin (see Figure 1.).

Turn signal levers can also be custom "knobified" (surprising what new words we Airflow owners will learn). Unscrew the lever from the steering column, bash off the old ugly knob end with a hammer and suspend the lever in a mold and make a new one you like. Here is a great example of how to improve on the car design when you lengthen the turn signal lever knob enough so that you can flick it on with your pinkie finger and not have to take your hand off the steering wheel. I used a cut down aluminum cigar tube for my turn signal lever and shaped a very slim tapered knob. As thin as the extended knob is, it is surprisingly strong.

What kind of molds should I use?

Glass Christmas tree ornaments are excellent. When the resin has hardened (wait at least 5 days) it will shrink ever so slightly in the glass mold. All you have to do is squeeze the glass mold and it will shatter away like an empty eggshell. However in the example of my gearshift knob I had to first enlarge the hole in the glass ball so that I could place the metal emblem in the bottom of the ball and secondly so I could suspend the brass hex "nut" in the ball. Since the ornament is very fragile I laid a ring of J-B WELD (Plastic Steel will also work) around the hole and once hardened I carefully nibbled away the unwanted ball spout and surrounding glass with a pair of needle nose

pliers. The ring of J-B WELD, in addition to preventing the ball from cracking, also serves a second purpose. It allowed me to fill the mold high enough so that when I filed the knob down around the protruding brass hex nut I could attain a perfectly round shape. Finally, the ring also acts as a reservoir dam and holds enough surplus resin to overcome any minor shrinkage in volume as the resin hardens. In order to build up this ring I stuck an upright ring of ½ inch masking tape on the glass ball to keep the J-B WELD from running. I built this ring up about 5/16 inch high with several applications of the weld (see Photo #1).

For other knobs, depending on their size any type of soft plastic, tin, aluminum, or thin glass container will do. The shape of the container is not as important as the size because you certainly don't want to cast a cigar lighter knob in a pork and bean tin can (too much filing). Also, keep in mind the container should be straight sided so that the knob can be easily extracted. Of course, you can always snip away the container once the resin has hardened. The soft plastic 35mm film canisters are an ideal size and shape for resin casting many types of knobs. Extraction is easy. The nice thing about cast resin is it is so easy to shape it with files and sandpaper. Just take your time. Don't work the hardened resin too fast. If it gets too warm from filing, just cool it with a wet rag.

Setting up the mold for inclusion pouring.

A picture is worth a thousand words.....see Photo #2. The trick is to use a series of clamps so that the bolt, screw , nut or whatever fastening devise your particular knob has can be suspended inside the mold for pouring and undisturbed hardening of the resin. In Photo #2 the glass ball is resting in an upside down cap of a spray paint can. Once everything is set up, the resin mix is carefully poured into the glass ball. A laundry detergent scoop has a nice spout for slow pouring.

Subsequent to taking Photo #2, it dawned on me that my bench drill press was an even simpler way of setting up the various fasteners I

wanted to suspend in a mold. I could square up the items with the mold more easily and I could also raise the mold with the drill press platform to achieve the correct height between the ball and the chucked-up bolt.

You don't have a lathe for turning and shaping knobs ?

Sure you do. You just haven't been properly introduced! It looks very much like an inexpensive small bench drill press. Bingo....an upright lathe. (Next to my vise grip it is THE most important tool in my modest shop). No drill press? Bet you got a ¼ inch electric drill which you can soft clamp the handle in a vise and thus have a stationary drill that will free your handsanother upright lathe. When you cast knobs with bolts , use long ones that will allow you to chuck them up in your drill press or clamped electric drill. Once the knob is shaped and polished just cut the embedded bolt to the correct length. In the case of a screw, wrap it with several winds of masking tape to protect the threads in the drill chuck. In the case of embedded nuts (See Figure 1.) use a bolt and cut the head off so you can chuck it for both the resin pouring and the shaping steps. If you want to embed only a small nut in the knob, screw a bolt into it so the resin won't fill up the threads.

Occasionally you may find that the knob is cast a little lopsided. That's not a problem as it can be readily rounded out as you gently file away the high spots as it spins on the drill press. All the filing is done free hand but resting your wrist against something close to the drill press helps. Slow speed is recommended. A ¼ inch electric drill speed is sufficient for all filing and sanding. For final polishing (use a quality chrome creme polish) I do like a bit more speed.

Be sure to let the resin harden for at least 5 days in a warm room before you try to remove it from the mold. Occasionally, you may find that the exposed surface is a little tacky. Not a problem as it will file away to a rock hard surface quickly. Generally, resin cast in an enclosed mold will harden faster and without any surface tackiness. Another reason for using glass Christmas balls for making gearshift lever knobs.

Are the embedded metal insignias a problem when shaping the knob?
Not at all. With most casts you will find that you may have to file a bit of the hardened resin away before the metal insignia appears. The resin and the metal file well together, particularly copper, brass, silver, pewter and gold. Stainless steel, although harder to make insignias out of shouldn't be a problem either. The resin won't chip away from the edge of the metal objects. Both materials file, sand and polish with equal results. Always bear in mind how thick your metal insignia is when you shape the top of your gearshift or accessory knob. If you want a round top face to your knob, curve the insignia before you cut it out of the stock metal and before you stick it in the bottom of the mold.

Photo # 3 illustrates the gearshift knob I made for my 1935 Airflow. The stylized brass letter captures both the "A" and the flowing "F" of the name. TREMCLAD green toned with white gave me a nice light mossy green colored resin. Of course, I can always easily unscrew the gear shift knob and put the original back on for serious show competition.....but when it comes to pleasure driving nothing feels as comfortable or looks as elegant as what I selfishly made for myself.....happy shifting!



PHOTO #1

FIGURE 1
SIDE VIEW

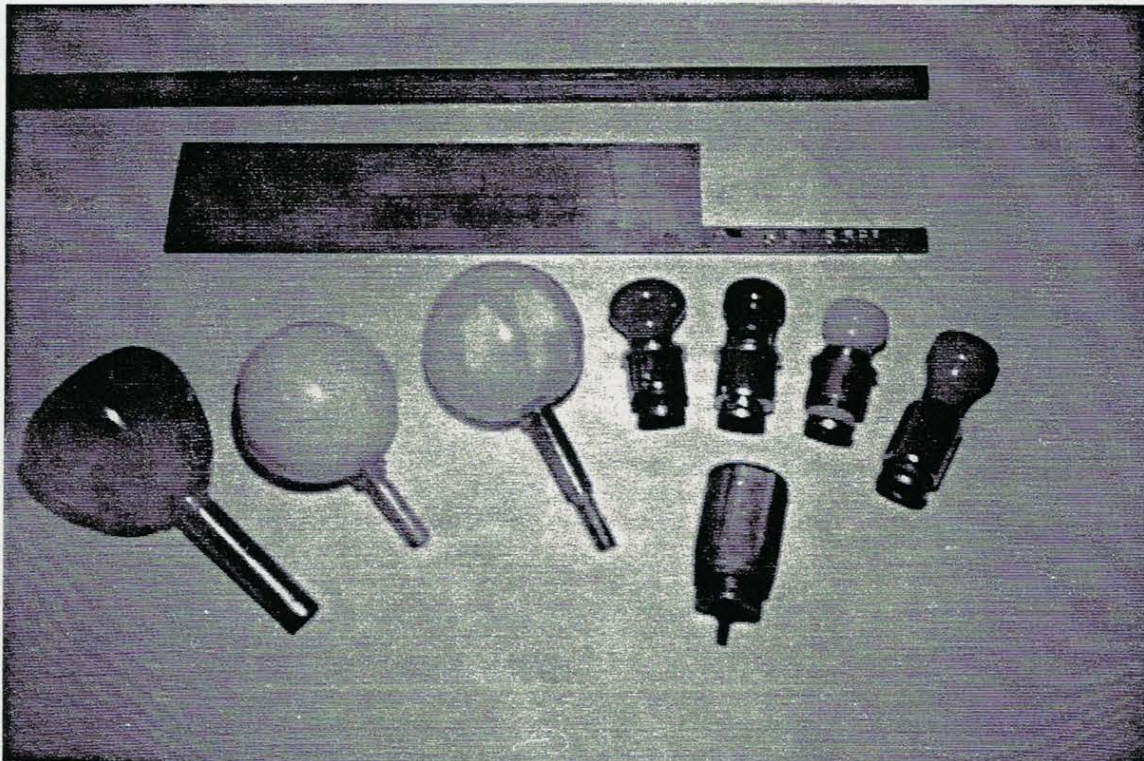
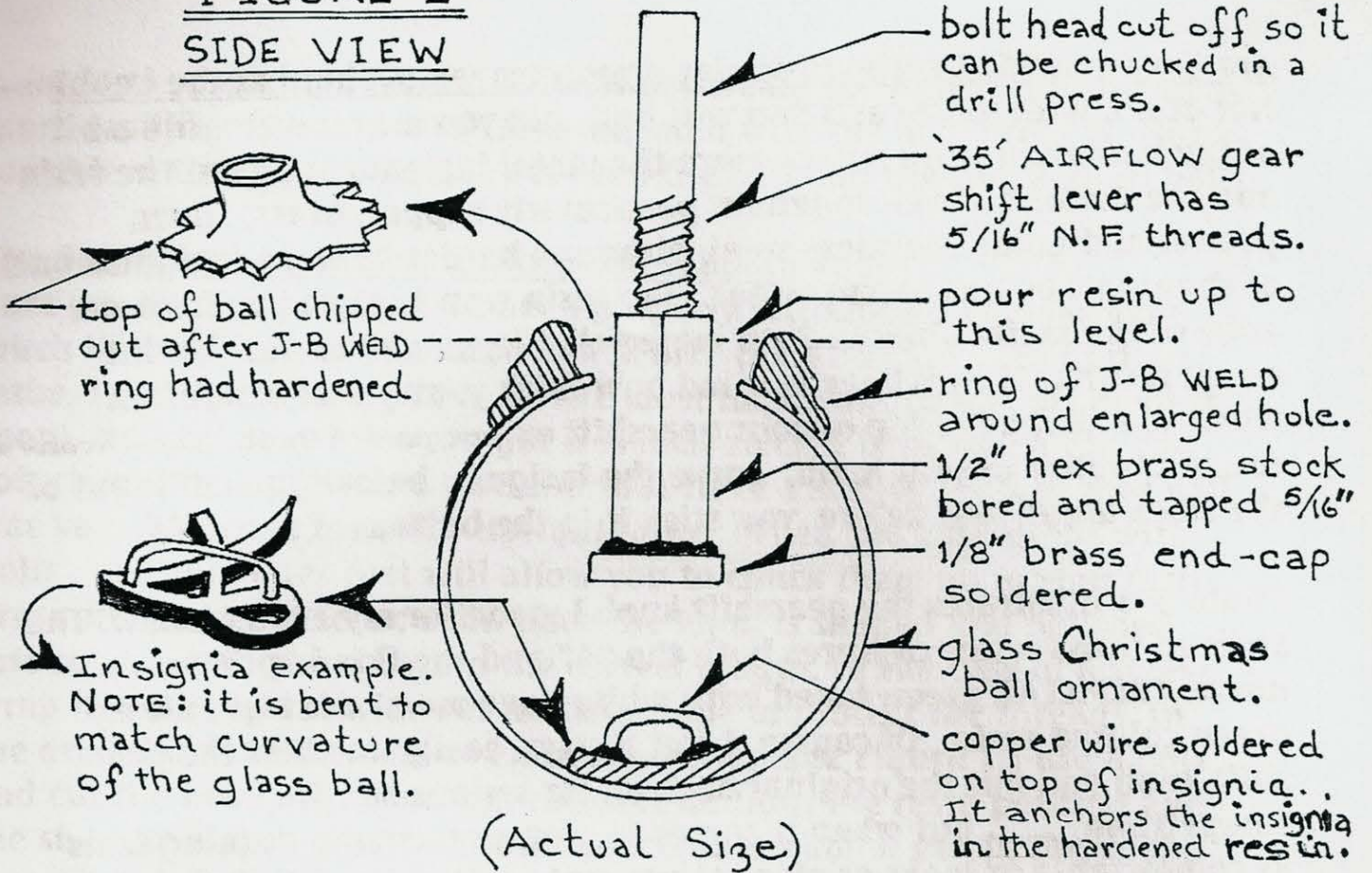


PHOTO "A"

FIGURE 2
CIGAR LIGHTER KNOB

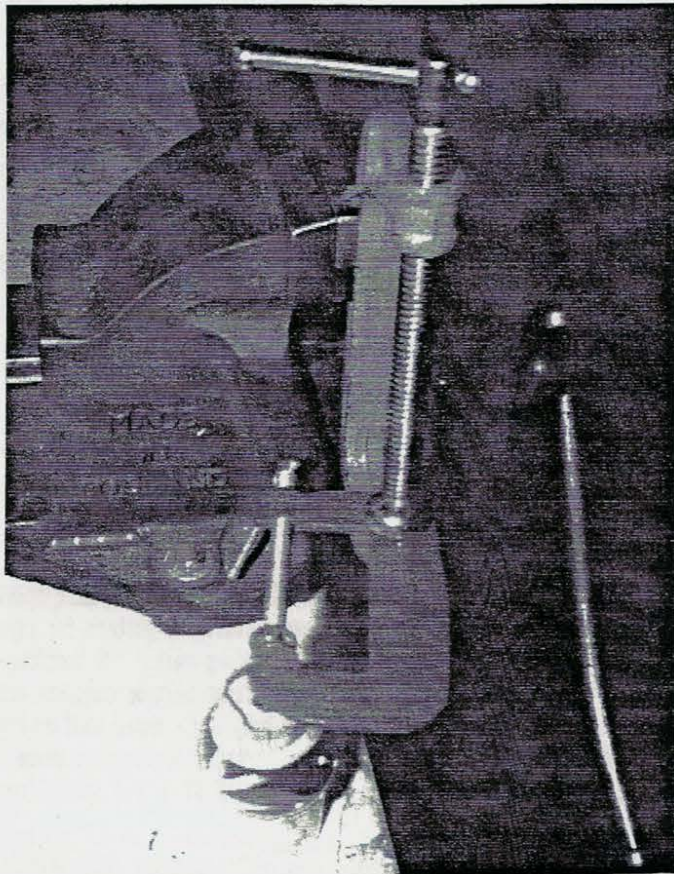
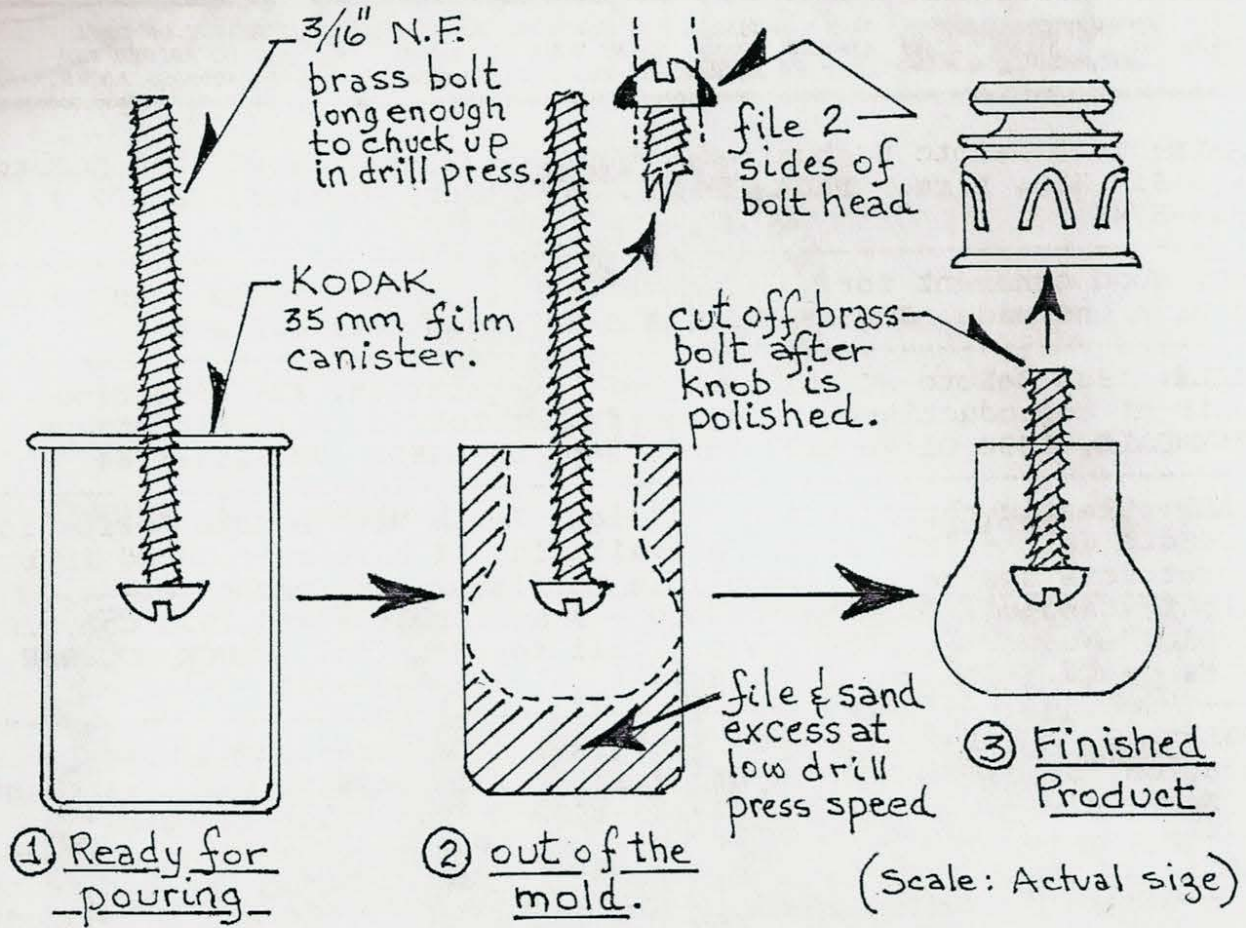


PHOTO #2

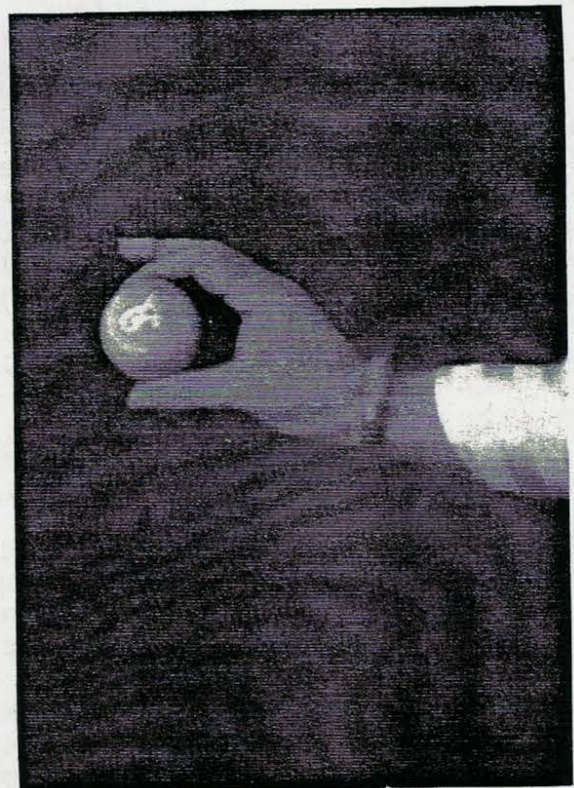


PHOTO #3