FERREE'S TOOLS, INC.

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UPDATED P50, Cor/Trpt Bell Bow Dent Instuctions for Driver & Retriever

The P50 consists of a long white guide sleeve with two tapered rubber center bushings, a chrome plated steel shaft with a handle on one end that has a series of black nylon balls mounted on a cable coming out of the other and at the end of the series of nylon balls there is a steel ball(driver)fastened on the cable and then a 'stroke cable', which is short bare cable fitted with a fine threaded lug at the end. There are two different sized brass 'retrievers' that screw onto this threaded lug, depending on where you are at in the bell. You will use the retriever that will fit thru the opening left in the bore by the dent. Do not attempt to 'Bull' the dent out using this tool.

This tool is designed to work with our N57G Barrel type Dent balls.

Most dent ball sets, similar to our N57G, have a hole drilled thru them in production. This hole should be a little over 1/8" diameter, in fact, the P50 comes with a #29 drill, which is .136". You can enlarge any existing holes to make your set compliant. If your dent balls do NOT already have such a hole; you might want to drill them first with an even smaller drill like a 5/64" or, a #48 and then use the #29 drill supplied, it will be easier to drill using the two step process. Don't forget to use cutting oil!

To use the P50, select a dent ball that is small enough to just start raising the dent and not run into the side of it, thus making two dents. If the ball is smaller than the bore of the guide tube, slide the ball over the stroke cable and screw the proper brass retriever on to just cover all the threads. (If the dent is extremely deep, be sure the retriever will fit thru to opening left in the bore, and then pick a dent ball slightly larger and work your way up from that point.) You DO NOT want the retriever to hit the dent!

Likewise, when working in the straight area near the first valve, it is advisable to stack a couple of smaller balls between the 'used ball' and the steel driver at the end of the nylon balls. That way, the retriever and the cable will not try to go around the corner into the casing and kink the stroke cable. I would leave about ½" free run on the stroke cable in this area. Also, this method is sometimes used in reverse to raise deeper dents in the curved area of the bell by putting one or a couple of smaller dents in front of the 'used ball' to be in effect 'going in with a wedge'. This also helps prevent kinking of the stroke cable. In some badly dented bells it will be necessary to solder-pull the dent up first, before attempting to use the P50, like we have done in the past. Once the area is opened up, then you can use the P50 to remove the dents and re-contour the area like we have all done for the last 60 to 70 years. The speed is gained by being able to precisely control the ball position and being able to drive and retrieve at will. Also, it saves getting the ball stuck in sideways and wear and tear on the wrists using the 'shake method'.

When you have the ball installed on the cable and the retriever secured on the threads, you should notice that the Dent ball slides back and forth freely on the stroke cable.

For best results, lubricate the Dent ball with a drop of two of your Z6 or a little of your Z6 modified Petroleum jelly, some do, some don't. But, you're going to have to clean the horn out anyway, so WHY NOT? Now get the guide sleeve.

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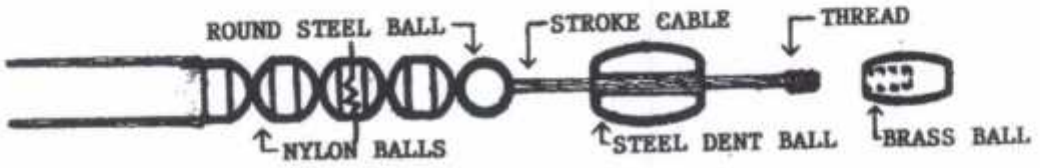
Lightly install the guide in the bore of the bell. Take one of the two rubber bushings supplied with the guide. Chose the bushing that best fits the bell and slide it down to where the unit is firmly in the bell, but can still easily be removed and nothing wiggles or rattles. Some people wax the outside of the guide tube to make moving the rubber wedges a little easier.

Insert, the tool with the ball attached into the guide sleeve, or if the ball is bigger than the bore of the guide sleeve, install the shaft and ball covered cable into the guide first and then put the ball on stroke cable and install the whole unit together. Then push the handle until the dent ball contacts the dent. Now start your 'ramrod' action. This will drive the ball further in and raise the dent. Burnish the outside with your F10A dent hammer with glancing blows, as you go, so you don't thin the brass by trapping it between the hammer and ball. The secret of all dent work is to hammer 'next to' the dent and not on it. The tool will slide freely back and forth in the guide and you should be placing more emphasis on the IN stroke to drive the ball in. The weight of the tool when coupled with your ramrod action will create enough inertia to drive the ball under most dents, pushed by the weight of the entire P50 unit and you.

THIS IS A HAND OPERATED TOOL. DO NOT HAMMER IT INTO THE HORN. It is also not intended to be put in a vise and used as a ramrod to push the dent up.

When you wish to remove a ball, just use the same technique in reverse. You should Emphasize the OUT stroke, and the retriever will be pulling the ball back out.



BROOK MAYS

Adding Life to the P50

A few tips on the P50, so you don't mess it up, too soon. They last a Long Time without cable problems, IF properly used. If you try the impossible, it will cost you money and it won't work really correctly until the cable is changed.

You can print THIS for later.

Okay. Just a few things:

1) You can't jamb the tool in where the brass pilot won't fit!
   It will just stop the pilot AND KINK THE CABLE.
2) You may have to pull the dent up to where the pilot will fit thru.
   That way you may anneal the brass a little, since the dent was so severe.
3) If you jamb the tool all the way around the bow so the ball is near the 1rst valve...
   You may kink the cable because it won't make the tight bend going into the casing.
4) You can avoid the above events; by observing ahead of time if there will be a problem. Although these methods are not necessarily endorsed by us, guys are misusing the tool in the following way to side step normal repair proceedure for speed. But, there is still a risk of cable damage, though maybe slightly less, if properly executed.
   A) If you put a couple of balls the next sizes down from the focus ball on the cable first, *before installing the focus ball*, the focus ball will arrive near the 1rst valve port almost immediately behind the pilot and the pilot will just hang in the port area and/or the open casing while you use the focus ball. That area is nearly straight, so there isn't usually much problem with the driver/retriever "action" being shorter. But, do keep that in mind. NOTE: Remove the valve, first!)
   B) If you put the focus ball *on the stroke cable first* and then add a couple balls the next sizes down in a tapered fashion from the focus ball, perhaps skipping some sizes to cover more range, this will help raise the deep dent in the bow. Since there won't be as much loose cable, the cable will be less likely to kink; BUT, IT IS STILL POSSIBLE, depending upon the size or the dent, depth of the dent and the sizes of balls you have chosen. Also, keep in mind that there STILL has to be enought clearance for the pilot to fit under and thru the area under the dent in the first place. There are no guarantees here. It is still best to solder and pull the dent up, and use the P50 as a driver/retriever, as it was intended.

It is always best to use a tool as it was designed. However, we know that our tools get misused in many ways. Some more beneficial than others. That is how the longer slide tube came about. Repairmen were installing the ball on the P50 and driving the tool into the instrument WITH A HAMMER!! Of course, the shorter tube either got wedged or broken and the cable invariably became kinked. The replacement cables are approx. US$17.50+s/h and the tubes are approx. US$29.50+s/h. SO, be careful. It IS your choice.

Other than that, I think you can pretty much proceed as proper repair procedure provides. Using the ball as an mandrel and NOT as an ANVIL. You want to hear the hammer go tunk tunk not tink tink. If the hammer hits the ball directly, you will thin the brass, work harden the brass worse that the forming of the dent did in the first place and you will enlarge the bore in that area and perhaps get a bulge. The object is to use the ball as a mandrel to hold the brass in its original location and use the hammer to move it to where it forms a bridge so that the curve stays up and doesn't stay flattened or ovaled. Light, glancing blows usually provide this. The P50 provides for precision ball placement to help in this process and allows for quick changing of the ball(s) necessary to accomplish this endeavor.

Best wishes for Good repairs, Gary FerRee, Repairman

P.S. Dan, I am going to use this email as a form letter to include it with all future new P50 tools shipped.

Grasshopper Dan,

Now, you can kiss ALL that shaking and arthritic exciting stuff goodbye. Let the natural weight of the tool and your RELAXED HAND do all the work. Read also the description on the website of the tool and under "tools in action". Really, the weight of the tool handle gives you more power than all the martinis you could shake. mGary