NTG Motor Services Limited

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X217 GIRLING SHOCK BUSH INSTALLATION TOOL

When our bushings are compared to the bushings removed from the shock link, we generally get a phone call because the bushings are so different in size. These bushings are manufactured to same dimensions as genuine new old stock replacement Girling bushings. The original bushings were 1" wide and 5/8" tall. Our bushings are the same size.

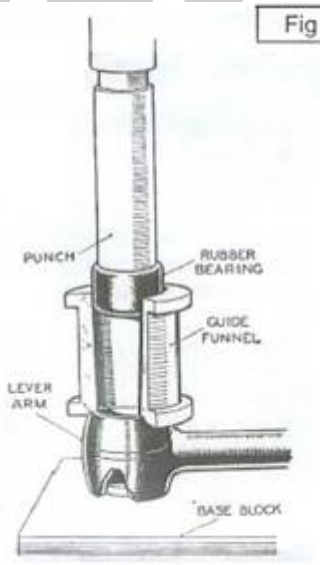
Fig 1

Take a good look at the diagram from the factory workshop manual (Fig 2). It shows a "rubber bearing" that is about to be forced through a "guide funnel" by a "punch". The relative dimensions of the "rubber bearing" are clearly closer to our R320 than the "bushing removed from the shock link" in Fig 1.

But why is the bushing that came out of the shock link so very different in size?

Two possible reasons: The proper bushings were not available for years, and many cars were put back on the road with pieces of rubber hose or any number of rubber bushings that fit more or less. The bushings cut from tubing generally have square cut ends with sharp edges. The old bushing shown in Fig 1 has the rounded edges characteristic of an original bushing, so these may in fact be OE. The bushing is forced into a small hole and a large pin is forced through it, and it is deformed as a result. After years of this abuse, the bushing that comes out looks nothing like the one that went in.

Fig 2



But this bushing is so large, there is no way to install it!

The bushing is impossible to install without the proper tools. (See Fig 2) Indeed, the Factory Shop Manual states "Special tools, as in Figs. L4 and L5, are "necessary" and, for once the book is absolutely correct. The tool has been reproduced and is available under part number X217. While the installation is possible without the special tools, possible is not the same as easy! With the tools, you will be successful eight out 10 times, so buy some extra bushings.

Please see the next page for the instructions on using the tools.

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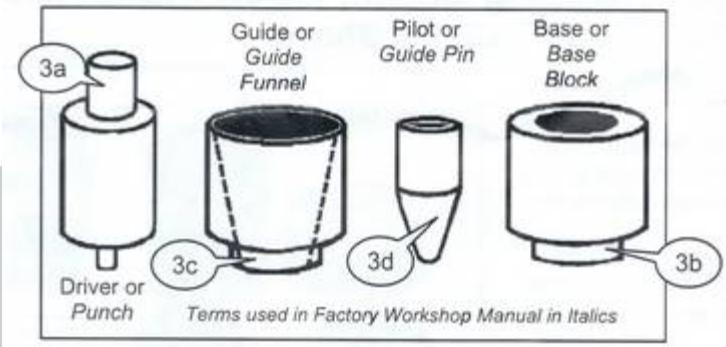
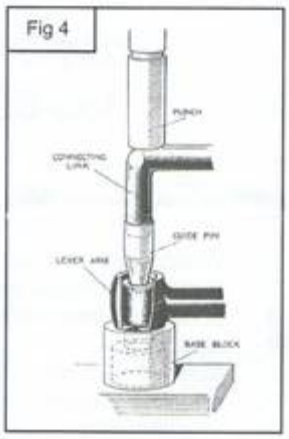
X217 TOOL SET - GIRLING SHOCK BUSH INSTALLATION

The kit contains four pieces: Driver, Guide, Pilot and Base. These pieces are used in combination to install the R320 original-style bushings in both the shock absorber arm and the shock link. They will also properly locate the link mounting stud in the link and the link in the shock absorber arm.





The easiest way to do this is with a drill press and an assistant, and that is how these instructions are written. If you do not have access to a drill press, a large bench vise can be used with the tool kit to squeeze the parts together but this makes the job more difficult. With either method, special care is needed when pressing the link through the bush in the shock arm, as the link will try to tilt sideways, which is why you need another pair of hands**.**

IMPORTANT: We suggest that you use water mixed with liquid detergent as a lubricant during installation. The bushing will move in the eye (and the shock link in the bushed eye) until the lubricating medium has dried. If you wait 24 hrs after installing the bushing before pressing in the link or stud, the bushing will be less likely to move around. Do not use silicone spray or grease.
Before you Begin: It is imperative that all traces of the old bushing, paint, and dirt be removed from the eye.. Hone the eye with a small brake cylinder hone or sand with emery cloth to ensure that the surface is smooth and clean.

Step 1: INSTALLING THE BUSHING IN THE EYE OF A LINK OR AN ARM.
Insert the long end (3a) of the Driver in the drill chuck. Set the Base on the drill press table, about 3.5” beneath the Driver. Position the eye of the link or shock arm on the base with the raised lip of the Base (3b) inside the eye. Place the guide on top of the eye with its step (3c) inside the eye. Wet the outside of a R320 bushing with a water/detergent mix. Place it in the top of the tapered guide. Lower the drill press so that the tip of the Driver centres in the bushing, then continue pressing until the bushing pushes out of the guide. It should now be centred in the eye, an even distance from each end.

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Step 2: INSTALLING THE STUD IN A BUSHED LINK

IMPORTANT NOTE: Be sure the stud is clean and that you are pressing the stud into the link from the correct side, relative to the bent end of the link.
Remove the Driver from the drill chuck, and close the jaws of the chuck. Fit the Pilot over the end of the stud. Liberally lubricate the Pilot taper (3d). With the link positioned over the base, still on the drill press table, point the Pilot into the centre of the bushing and lower the drill press so that the chuck presses on the threaded end of the stud. Hold the link tightly so that it cannot be squeezed up off the Base, while you continue to lower the chuck. When the stud is properly positioned, the Pilot will drop off into the Base

Step 3: INSTALLING THE LINK INTO THE SHOCK ARM (Fig 4)

IMPORTANT NOTE: Once again, be sure that you are pressing the link into the correct side of the shock arm. Open the chuck so that you have as wide and flat a pressing surface as possible. Position the bushed shock arm over the Base, fit the Pilot onto the end of the link and lubricate liberally. Aim the Pilot onto the centre of the bushing and position the link so that the drill chuck bears down on it just behind the bend. Maintain an upward pressure on the eye end of the link while pressing down with the drill press. This will help prevent the Pilot from entering the bushing at an angle. Continue pressing until the link has passed all the way into the bushing and the Pilot has dropped off into the Base.
Until the lubricant has dried, the link will turn in the bushing, enabling it to be aligned correctly. However, do not drive the car until the lubricant has had at least 24 hours to dry.