Replacing Shift Linkage Bushing (7/15/2002 by Chet Hwilka)

Symptoms

Suddenly one day the transmission shift level becomes a little sloppy and makes a slight clank sound when shifting into any gear. This sound does not come from the transmission itself, but from the external linkage. It makes the sound even if the engine's not running. So don't confuse it with possible drive train problems. The transmission will go into gear without a problem, but if left unattended to, will most likely wear out the linkage, to where selecting the correct gear could be a problem.
This has happened to all my MB's, which all had over 120k miles and over 10 years. So I'd say it's a common failure. So if your car exhibits these symptoms, I'd definitely have it looked at before the car lets you down.

Description

The shifting linkage assembly consists of a gear shift selector (Fig-6), which is coupled to an intermediate connecting rod (about 2 feet long), which is coupled to the shifting lever located on the left side of the transmission (Fig-2). The connecting rod is coupled at both ends through a neoprene bushing to the respective selector and transmission levers. These bushings in time become brittle and partially break away, leaving a metal against metal coupling between rod and lever. Fortunately on all that I've changed (3 cars total), the bushing always disintegrated the same way. The inner half between the level and the rod. Rather than the half between the rod and the clip. Otherwise, I'm sure the clip would have, in a short time, worked it's way off and would have left me stranded, not being able to select a gear. I'm not sure if it was designed that way, but it wouldn't surprise me if it was.

Tools and Parts Required

- 2 - Shifter Linkage bushings. (about $1.00 each)
- 2 - 10mm wrenches
- 1 - large flatblade screwdriver.
- bushing press (homemade tool, Fig-3)
- Locktite
- utility knife (to cut off old bushing, if it doesn't just fall off)

Procedure (est. time 60 mins) (did not find a job # in the MB Manual)

Important: Apply emergency brake and place a chock under each wheel before starting. You'll be working under the car with the shift lever. If you simply leave the car in park, jack it up and crawl under it, then start work on it and accidentally shift it out of Park.... Well I think you get the idea...
Jack up the front left side of the car, place a good jack stand under the car and lower it until both the stand and jack are supporting the car. Make sure everything secure and the emergency brake is on..

Crawl under the car and notice on the left side of the transmission/driveshaft tunnel a rod about 2 feet in length. That connects to a lever on the side of the transmission at one end and at the other end connects to a lever coming down from the cockpit (gear selector). You may notice that that one end (most likely the transmission end) is loose and just flopping around (Fig-1).

The rod is held in place by a bushing and a locking slide clip at either end. The clip holding the rod to the Gear Selector is easily accessible and can be remove by simply turning the clip to where the open end is facing you. Then use your screwdriver to gently spread the clip open slightly and then push it back to disengage it from the end of the rod.

Fig-1

The clip at the transmission end is much more difficult to access and it is much easier to remove the transmission shifting lever. Then extract the entire rod assembly and then unclip the lever from the end of the rod while it's on the bench. (Fig-1)

Note: As always before removing any parts, make sure you record the orientation of all components first. This will make reassemble much simpler.

To remove the transmission shifting lever, loosen (with the 10mm wrenches) and remove the clamping bolt located at the bottom of the lever. The lever can not be removed until the bolt has been removed first. Use a long screwdriver to gently work the transmission shifting lever off the shifting shaft. (Fig-2)
Note: There is a plastic lever with a guide pin located behind the shifting lever. This plastic lever is the Park/Neutral safety switch. Be careful not to break it.. And also on reassembly that plastic pin must be seated in the shifting lever.

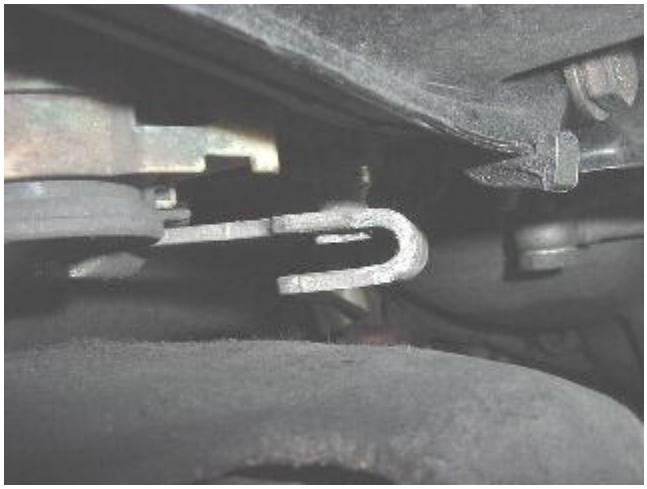

Fig-2

With both ends of the shifting rod loose, work the rod forward and out.

Disconnect the shifting rod from the shifting lever. Remove the remnants of the bushing with the utility knife if necessary. The new bushing must be pressed back into the lever.
Note: Be sure to install the bushing into the correct hole in the shifting lever.
To press the busing back into the lever hole I had to devise a simple press (Fig-3). I used a 1/4" bolt about 2" long. I slipped a large washer and the bushing on to the bolt. Then slipped all that over through the appropriate hole in the lever. Then slipped a large nut (about 7/8" brass compression fitting nut), large washer and the 3/8" nut. Then center the whole assemble over the the big hole in the level and smug the nut up. Keep tightening the nut until the bushing is pressed through the hole. (Fig-4) You should not have to flatten the bushing to get to go through the hole. If the it is flattening out too much, the bush probably isn't centered over the hole properly.


Fig-3

Once the bushing is in the hole, remove the press and use a small screwdriver to work the lip of the bushing the rest of the way through the hole. You should be able to just spin the bushing in the hole if it's properly installed. If it's not pushed all the way through, it'll be difficult to reinstall the shifting rod.

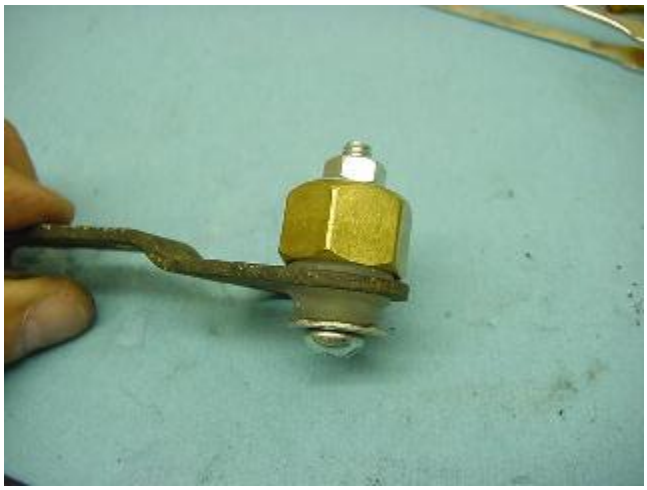
Fig-4

Reinstall the shifting level, as it was originally installed.

Get back under the car and remove the bushing from the gear shift selector linkage using a utility knife if necessary. Then install new bushing as per previous procedure. (Fig-5)

Fig-5

Slide rod back into position and reconnect the shifting rod to the gear shift select linkage. **Note:** The clip should be on the left side of the linkage. (Fig-6)

Fig-6

Now reinstall transmission shifting lever over the shift shaft. **Note:** The shaft in flat on two sides, so it can only go on one way. **Also:** Be careful to not damage the plastic switch lever and make sure that the plastic pin on the switch lever mates with the transmission shifting lever. With the transmission shifting lever securely in place, install the clamping screw from the bottom, install the washer and nut with a drop of Locktite applied. Tighten the nut.

That's it...

Testing

With the car on the ground, car in Park, chocks removed and emergency brake off. Put you foot on the brake and start the car, put the car in Reverse and slowly take your foot off the brake. The car should go

in reverse. Try the same thing for Drive. Shut the car off, with you foot on the brake and the car in Neutral can you start it? (you should be able to). Now with the car in gear can you start it? (you should not be able to start it). This just makes sure you got the linkage back on correctly and the Safety/Neutral switch work properly..

Disclaimer

This procedure was on my 1989 560 SEC and should be used as a reference. It requires an average mechanical ability. It should only be attempted by individuals with all the required tools and aware of the precautions of working under a vehicle.