

## How to: Remove & replace parking brake cables in an R53

### **Overview:**

I went and replaced my parking brake cables yesterday in my R53 2005 MCS. I had been dreading doing it thinking I was going to have to drop my exhaust to get to the cables which wasn't necessary. I was also concerned I would need the BMW special tool used to compress the old cable out of the body of the car which was absolutely not necessary. As long as you have a deep 12mm socket, you should have no problem using that to push the old cable.

The diagrams in the Bentley manual were really helpful for removing the trim pieces and knowing where all the clips were but if you don't have it, I wouldn't sweat it. I wish I could have provided pictures but I was in a rush to do the job. It's pretty self-explanatory once you see how it all works. Here's the rundown of what I did.

### **Tools needed:**

Jack/jack stands

Ratchet w/ extension

10mm & 13mm six point sockets

12mm deep socket, preferably a 3/8 or 1/2 drive

Vice grips or pliers

5mm hex socket (for DSC cars only)

10mm and 13mm (ratcheting preferably!) open ended wrenches

Trim removal tools and/or long flat bladed screwdriver

Hammer

(1) Plastic 8" cable tie

### **Time required:**

2-3 hours

## Procedure:

1. Remove the interior trim surrounding the parking brake handle by gently prying up just around the boot being careful not to damage the boot material. Once free invert the material and cut the (1) plastic cable tie holding it in place and leave the boot in place for the moment.
2. Next, remove the plastic surround just behind the button of the brake. There are two clips holding it in place – one on the driver's side and one on the passenger's. One side (passenger for me) was easier to spread open than the other. I ended up using an old plastic gift card to make a little bit of room and then pushing the clip in with a thin, small flat bladed screwdriver. You may be luckier than I was here. Just go slow and be patient and don't mar the visible plastic.
3. There is one black clip at the top of the parking brake grip that will need to be pulled slightly upwards as you slide the grip off the parking brake. Note the orientation of the clip as the grip only goes on one way and you will need to be oriented properly for installation. You can now remove the boot.
4. Next you'll need to remove the plastic console portion. First remove the (1) screw just in front of the rear cup holder that is now visible. You'll then need to pry up the console. You can do this with a long screwdriver or flat bar if you're careful but if you think you'll be doing this kind of thing often, consider investing in a cheap set of plastic trim removal tools. Neiko makes a set that Amazon sells for about \$15 or \$20. Alas, I used what I had and was careful and all went fine. Starting at the back by the cup holder on each side working your way forward pry upwards until you hear a pop from the four clips (two in the rear, one in the front). As you pull upwards, you'll need to remove the wire from the TPMS reset button and any additional buttons located on your console.
5. With the console removed, if you have DSC, remove the two 5mm hex head bolts holding down the motion sensor (silver thing with an electrical connector plugged into it). Once unbolted, push in on both top and bottom of the connector and pull out. Unplug the parking brake cable sensor on the back of the parking brake. Both small wires are connected with a plastic retainer pin to the plastic console bracket and should pull straight upward. You can now unscrew the (4) 10mm nuts that hold the bracket in place and remove it.
6. With the bracket out of the way, you can now slacken your parking brake using the 13mm adjusting nut underneath the handle until you can disconnect the Bowden cables from the compensator assembly.
7. Here, I removed the entire handbrake and its metal bracket which is only being held down by (4) 13mm nuts. This will give you room to work when pushing out the old cables in step 14.
8. At this point, we'll go outside of the car before pushing out the old cables to make sure you can free them up at the brake caliper where they can sometimes get stuck. Jack up the car, get it on stands and remove the rear wheels.
9. At the caliper you should be able to use a pair of vice grips or pliers and grab the head of the cable and pull the slack towards you so that you may simply move it out of its spring mechanism. If you've got a cable that is completely frozen and will not budge like I did, use an

extra-large screwdriver or something to lean your weight into to compress the spring while you remove the cable from the spring mechanism. If you still can't pull the slack of the cable back after it's out of the spring, you may need a pair of bolt cutters or a very good pair of wire cutters for step 14 so try now while everything is still in place. If you can't get it to budge, don't sweat it and move on.

10. Pull the cable out from the hole that it feeds through the brake caliper. There are no fasteners here however these sometimes get rusted up very well into the caliper. If you have trouble, I suggest using some penetrating fluid and a hammer and drift to push the old one out. You may also be able to use an old chisel on the backside of the hole to wedge it between where the cable meets the caliper and metal housing on the cable. Mine was in so tight, I ended up using an air hammer to get it out. If you don't have access to one and are having trouble, you can always cut the rubber boot off the cable and try using a torch to heat it up and then hammer it out. Although I had a hell of a time on one side, the other pulled straight out.
11. Underneath the car, follow the cables back and remove the two 10mm fasteners for the cable bracket with your open ended wrench where it meets the rear subframe.
12. You'll next need to remove the heat shield that covers the area above the rear half of the straight (link) pipe that's part of the exhaust. I'm unsure what size the fasteners at the rear of the heat shield are because mine had broken through and weren't being supported by anything. However, the fasteners towards the front of the car use a 10mm socket. Be careful not to strip these as they are thin and usually slightly deformed. Let the heat shield hang on the exhaust pipe while you work.
13. Pull straight down on the cables where they each attach at two points on the plastic fuel tank.
14. With all of the outside connections free, we'll move back inside the car. If you were unable to pull all the cable slack back towards the caliper slide of the cable, take a pair of bolt cutters or strong wire cutters and cut as much of the remaining cable off as possible. Using a 12mm deep well socket, place it over the head of the cable and use hammer to tap the socket over the head of the cable. If that alone doesn't pop the cable out of the body of the car, once it's securely over the head of the cable, use a screwdriver, punch, or something that will fit through the hole of the socket to tap the cable the rest of the way out. If you don't have a 12mm deep, a regular 12mm and short extension MAY work here. Although it should, if the 12mm doesn't seem to be doing the trick (which it did on the OEM and even the aftermarket Doorman cable) you can try stepping down to a 15/32 (if you have it) or a 7/16 socket.
15. That should be it! Yank those old suckers out and leave them on their respective sides of the car for comparison or in case you're unsure as to which new cable belongs on which side. They are different lengths. Installation of the new cables is fairly straightforward at this point however here are some tips:
  - Feed the cables in through the subframe and before you insert them into the body of the car, insert them into the wheel caliper to prevent them from binding if you don't seem to have enough slack. Use a bit of anti-seize compound in the hole the cable feeds through in the caliper.
  - Don't forget to install the new bracket to the rear subframe once you've pushed the new cable into the body of the car.

- If using Doorman aftermarket cables, you may find that the left and the right cable heads were manufactured differently like mine were. The Doorman C660804 (left [driver]) was manufactured more similarly to OEM than was Doorman C660700 cable (right [passenger]). On the right, I found that the rubber grommet it comes with that pushes up against the outside body of the car is too thick and I was unable to compress it against the body of the car for it to lock into place. Instead, I removed it and used two nitrile O-rings from the Harbor Freight 225pc pack they sell. I think I put an A010 (1/4" x 3/8" x 1/16") on the larger portion of the head and an A006 (1/8" x 1/4" x 1/16") on the smaller portion just below where it flares. Surely the sizes aren't that crucial but there they are if you find you need them. Also if using the Doorman cables, the left (driver side) didn't seem to be long enough to reach the rear fuel tank clip. I don't suspect it'll be a problem but I'll keep an eye out for wear the next time I'm under there.
- When adjusting the cables, you'll likely need to run back the adjusting nut on the parking brake assembly all the way so you can push the balls of the Bowden cable into the compensator. I had to take mine all the way off and then it just made it but I'm sure you could finesse it with a pair of pliers or have someone compress the spring on the caliper if you had trouble making the connection. With the brake assembly and its bracket tightened back down, run the parking brake up one click and tighten adjustment nut until the compensator has no more slack. Now run the parking brake up and down a few times and retighten. Pull hard and do this procedure two or three times or until you've got it sufficiently adjusted. I believe the BMW TIS specifies that the wheels should be sufficiently immobilized by 5 or 6 clicks so shoot for that. It also specifies that the brake light may or may not be on with the first click but by the second, it should be on. There should be no resistance on the wheels until the second click.
- When reinstalling, don't forget your DSC motion sensor, parking brake and TPMS button connectors. Don't forget to install the screw in front of the rear cup holder. Install the console first, then the boot, then the grip (pulling up on the tab as you slide it back on, remembering it only goes on one way), then zip tie and pop everything into place.
- I've attached a (cell phone, sorry) photo showing the difference between the two new Doorman cable heads. The one on the left is for the driver side of the car and the one on the right is missing its (too thick) grommet before I installed the O-rings.

Good luck with it!

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