Lessons Learned
From MGB Clutch Replacement Tech Session

Work conducted Summer 2019 by Michael Cooke on his 1973 MGB and supervised by Andrew McCue at Andrew's garage.

The background to this technical session is that the existing clutch failed and it was decided to remove the engine and transmission to get to the heart of the problem. It was also decided to replace as many parts as reasonable to ensure other lurking problems did not soon occur. For example replace the clutch master and slave cylinders even though the existing ones were working. All these decisions proved wise as deteriorated rubber piping and bushings were found along the way.

Much of the plan was straightforward, using Moss diagrams to determine which parts were needed. What proved to be difficult was picking the right techniques to do some of the stages. In one simple case the Moss diagram was inadequate and resulted in a half day lost driving to Montreal to pick up the on-the-fly discovered part (shims).

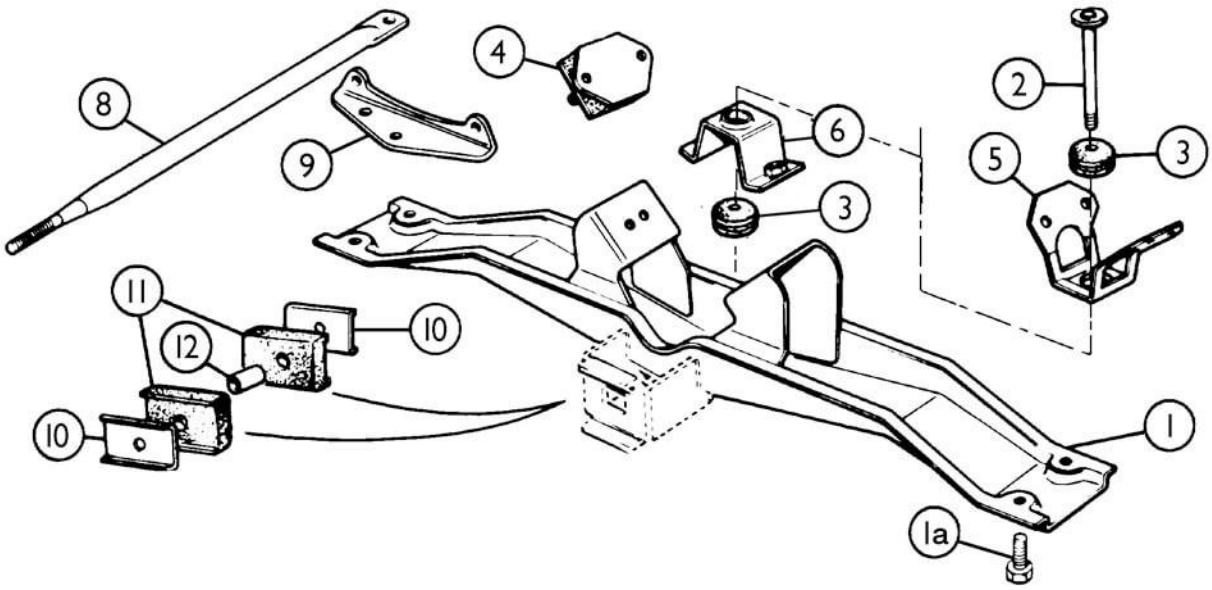
Speaking of parts, all parts were ordered from a Moss supplier but several were unavailable or very expensive and had to be ordered from suppliers in the UK. Both UK suppliers delivered in 4 days. The Moss supplied parts took a month, and the shipment was incomplete, resulting in another half day lost going to Montreal to get vital parts from another Moss supplier.

The following three items are the most significant of the many techniques learned during this exercise.

As they say: Assembly is the reverse of disassembly. What is described for the most part is the assembly step, so disassembly is the reverse of this, and left to the reader.

Diagrams are from the Moss on-line catalogue.

Gearbox Mount 1968-80



Issue # 1

The two bushings marked 3 in the above diagram are rubber (although poly bushings are supposedly available and may be easier to install). Getting them pressed into parts 5 and 6 took an hour or so. In retrospect lubricating them heavily with dry Teflon might have eased this. See use of Teflon later.

Issue # 2

Getting this whole assembly back on board was a nightmare costing several hours wasted time. The first thing to note is that there are various ways of putting this together depending on whether you have overdrive or not, and there is a ‘front’ and a ‘back’ to several parts. On disassembly mark the orientation of everything.

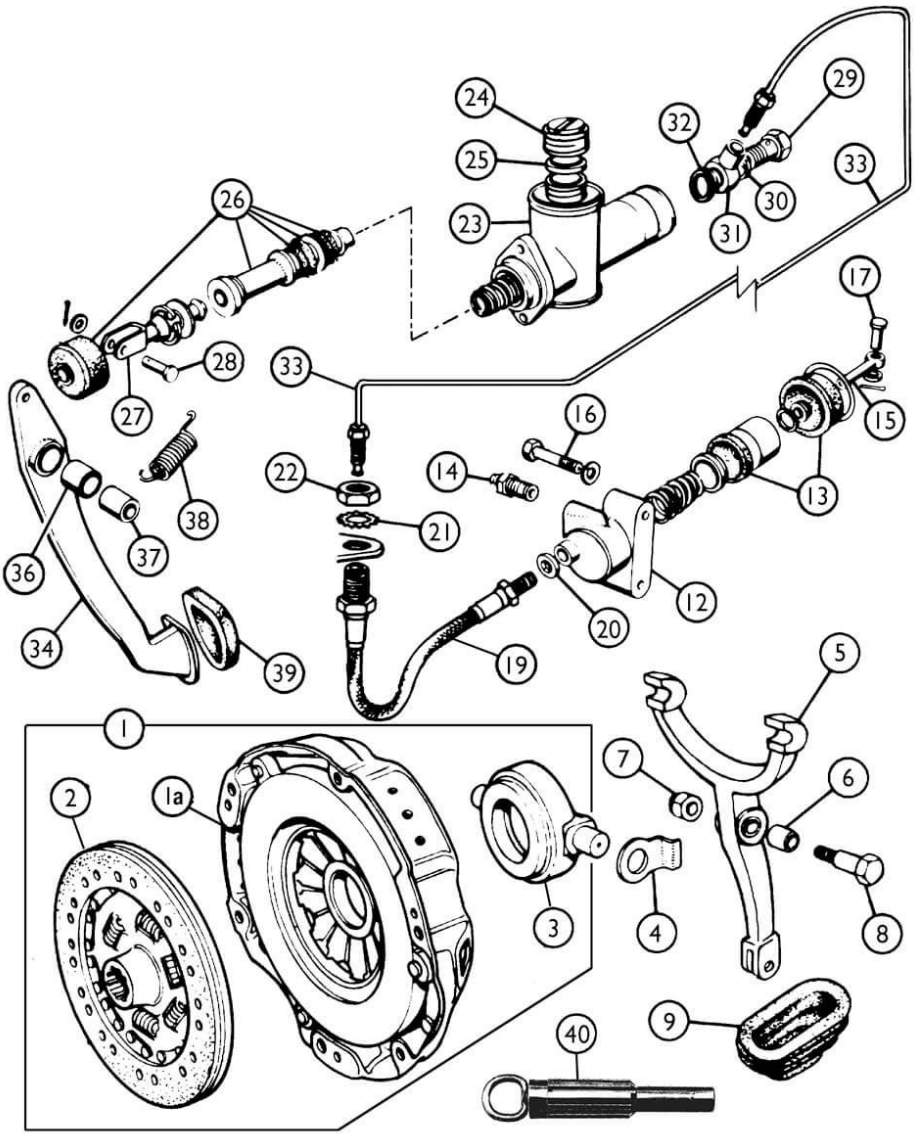
The first technique tried was assembling the parts one by one onto the body. Too heavy, too many moving parts, orientation of 5 and 6, and the almost inaccessible bolts going into the bushings marked 4. Note the studs on these bushings point at 45 degrees to vertical so item 1 can’t go on if the two bushings have been installed, etc., etc., etc. One possibility is to shorten the studs.

The second technique tried was pre-assembling everything and then bolting the unit on with bolts 1a. Great idea but installing the 4 bolts through parts 4 is more or less impossible.

Occams’ Razor says, more or less: ’if you think there has to be a better way there probably is.

The third technique was to pre-assemble one side and then do the other side, part-by-part, and deal with the two bolts on the final bushing part 4 as the only hard step. It was quite a quick job this time. [Wifey said ‘I could have told you that’s how you do it.]

Clutch System



Issue # 3

The parts 21 and 22 were heavily rusted due to their position in the rust-inducing environment. Access is generally OK if engine is in with hydraulic lines disconnected or engine is out. Because of the rust an impact driver was required .

Issue # 4

Installing and connecting up the clutch master cylinder (M/C), parts 23, 24, 25, 29, 30, 31, 32 and 33.

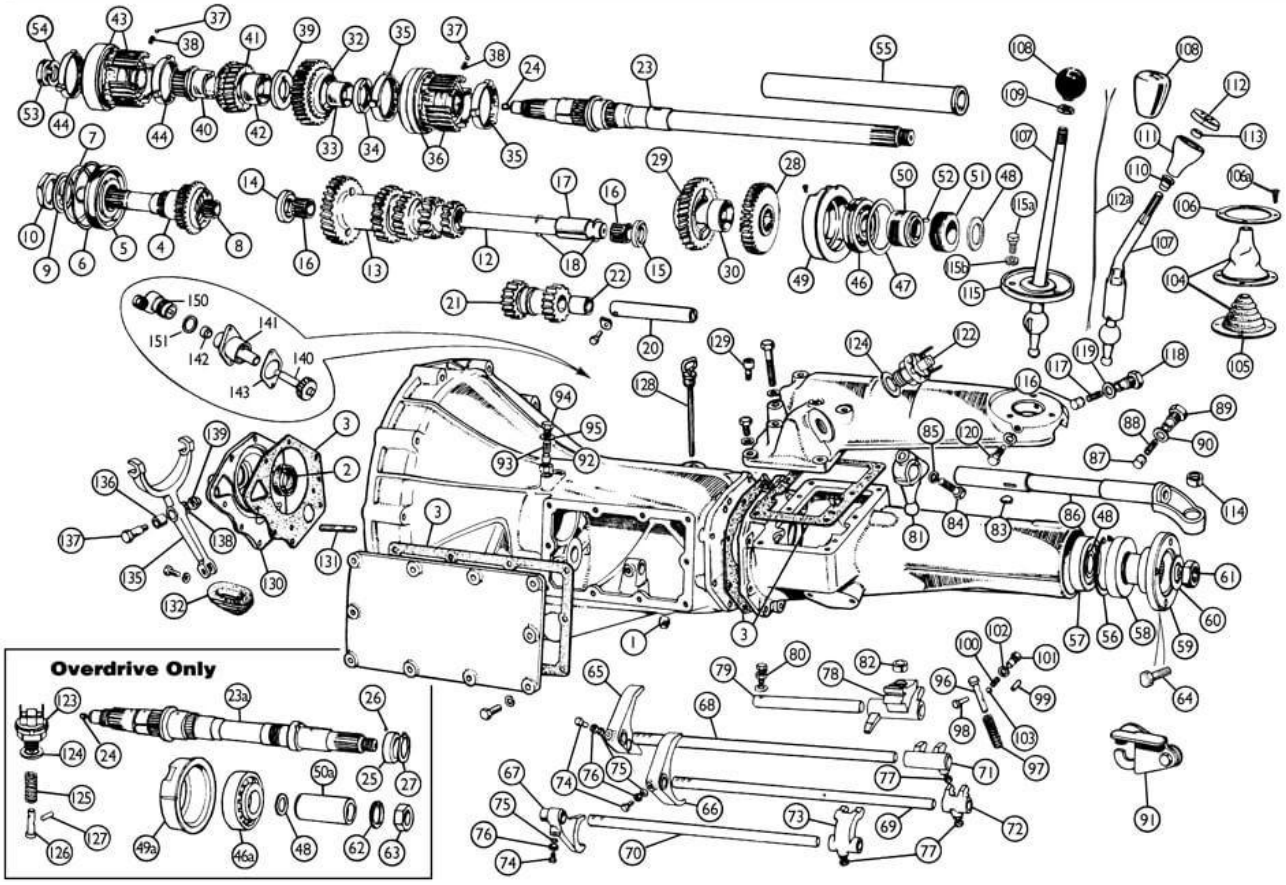
Beware: The alignment of the hydraulic coupling at the master's banjo (part 31) is always a problem to get the threads started.

First technique: The obvious way seemed to be use small hands inside the pedal box to put things together, line up the banjo bolt and clutch line, install, from inside the nuts to the bolts holding the M/C to the box, hope the fluid line has enough give to let you do this, etc., etc. Many hours lost and copper crush-washers wasted unsuccessfully.

Second technique: Stand alongside the car with the bonnet up (or off) on your left, and the driver's door ajar on your right. Right hand goes under the dash and removes the large rubber grommet in the firewall; left hand goes into the pedal box. With hands using this quite easy access loosely assemble (see 'sequence' below) all the parts listed above and lightly tighten them together, in a cycle, one joint at a time until all the joints are tightened. This includes the bolts holding the M/C to the pedal box, which in itself is rather finicky. To make this step easier Andrew tapped the M/C so that it could be bolted on from outside the pedal box rather than the OEM design using a through bolt with inner nut.

Sequence: The banjo is 'handed'. It has a narrow side, which must face the M/C. First attach the hydraulic coupling nut (33) to the banjo (31), ensuring as many threads as possible are attached. Rotate the banjo so the narrow side is forward. Put the large copper crush-washer on the banjo bolt (29). Put banjo bolt through banjo. Add small crush-washer to banjo bolt. Introduce banjo bolt to M/C. Loosely bolt M/C to pedal box. Commence tightening in the above sequence.

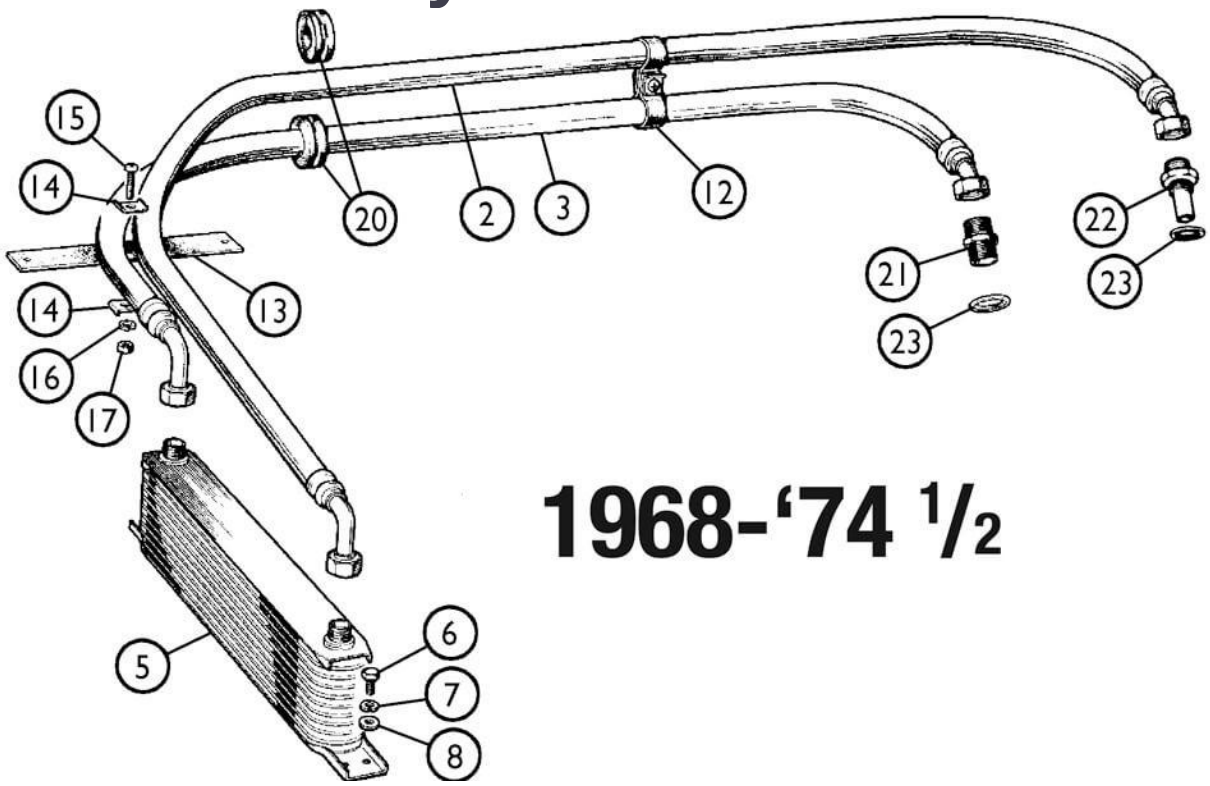
Gearbox (4-synchro) 1968-80



Issue # 5

If you go into the bell housing and remove the cover part 130 to replace the oil seal (part 2) and gasket (part 3) you are going to discover some shims of various thicknesses, which probably need replacing. Look carefully at part 7 on the diagram and measure yours to determine what to order. Or order a bundle as a pre-emptive strike before you start the project.

Oil Cooler System 1968-74-1/2



Issue # 6

Getting the grommets (part 20) around the oil pipes (parts 2 and 3) and seated in the radiator support.

If the pipes are already in place the easiest first step is cut the doughnut radially so it will slide over the pipe. If not already installed then slide grommet over respective pipes from one end and feed the pipe through the holes in the support.

Finally offer up the grommets to their respective holes in the support and press into place. This is where you should be laughing out loud!

On the first grommet, pressing it into place took several hours over a day and a half, and many torn fingernails, even using screwdrivers and other tools.

Remember Occam's Razor?

On the second grommet I sprayed it liberally with dry Teflon. Liberally!! It took about two minutes to press it home.

Here are some links to articles, tips and techniques that may help during your own project:

First, from club member Andrew McCue:

https://www.mgexp.com/forum/mgb-and-gt-forum.1/thoughts-on-heater-box-removal-refurbish.3190595/

Here are some resources:

https://mgb1967.com/removing-the-mgb-gt-heater-box/

https://mgb1967.com/removing-the-mgb-gt-heater-box-part-2/

https://www.britishcarforum.com/bcf/showthread.php?56793-MGB-Heater-Box-Removal

https://www.mg-cars.org.uk/news/news169.html

http://www.fixya.com/cars/t1425032-mgb_gt_heater_box_removal

http://www.mgb-stuff.org.uk/heatertext.htm

and one last possibility:

https://www.everypixel.com/image-9780302932917024324