COBALT®
PRECISION AUTOMOTIVE

Adjustable Clutch Linkage Rod (#1972-053)

MG TD, TF

The original linkage rod is not adjustable, but it should have been. As clutch components wear with normal usage, the stock linkage rod cannot be adjusted to maintain the optimum length for smooth clutch operation. MG owners and the shops that restore them have been making adjustable rods for decades. The Cobalt adjustable linkage rod gives 1" additional length compared to the original. The COBALT rod itself is threaded on both ends; one end clockwise, and the other end counter-clockwise. This allows you to adjust the length by loosening the 2 jam nuts and rotating the shaft- no need to disconnect the clevis pins at either end. The original clevis pins may be significantly worn, and the optimal size required may not be readily available everywhere, so a pair of new clevis pins are provided. It is assumed that you will reuse or replace the cotter pins as required.

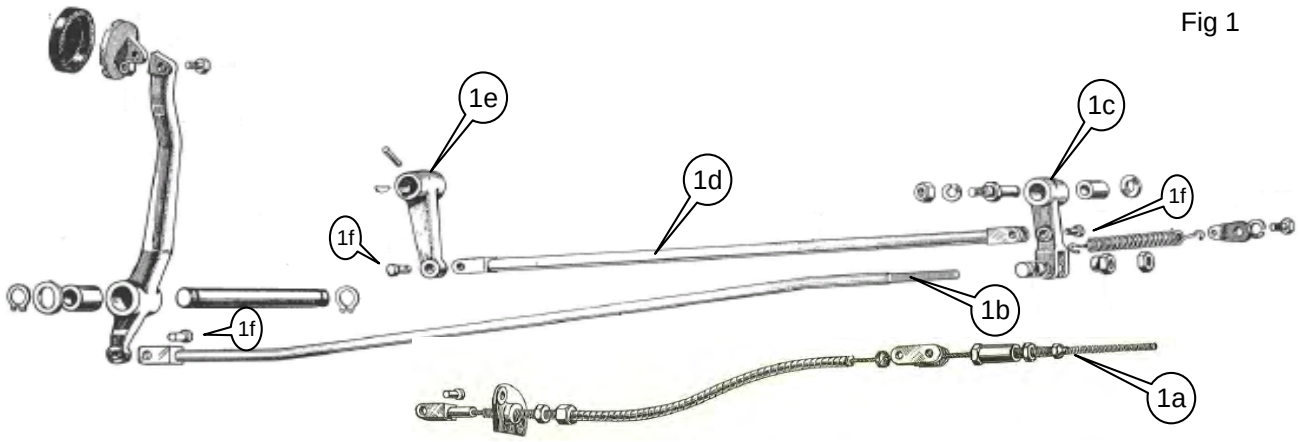
The rod and components are zinc plated for corrosion resistance. The yellow tint is due to the type of zinc plating specified; these are not "cad plated".

If you have any questions about this product, please contact the company you purchased it from.

Supplemental Information & Instructions for 190-422 Clutch Linkage Rod, Adjustable

MG TD, TF

Fig 1



The MG TD-TF Clutch Linkage

Ref	Moss US	Moss Europe	Description	Application	Qty
1a	331-070	331-070	Clutch Operating Cable	TD to (c)22250	1
1b	451-220	451-220	Clutch Operating Rod	TD from (c)22251, TF	1
1c	190-400	190-400	Front Clutch Lever		1
1d	190-420	190-420	Clutch Linkage Rod, non adjustable (which you are replacing)		
1e	190-370	190-370	Rear Clutch Lever, 5/8" shaft	TD to (e)9407	1
	190-380	190-380	Rear Clutch Lever, 3/4" shaft	TD from (e)9408, TF	1
1f	325-130	2K6930	Clevis Pin, 1/4"		3

The owner's manuals for the TD (Fig 2) and TF (Fig 3) show the two different operating links. The cable (2a) and the rod (3a) connect to the front clutch lever in the same way. In service, the friction of the clutch operating cable in its housing created serious problems, especially as dirt worked its way into the cable housing. The cables also were very stiff in cold weather. It did not take them long to figure out this was a serious problem.

Fig 2

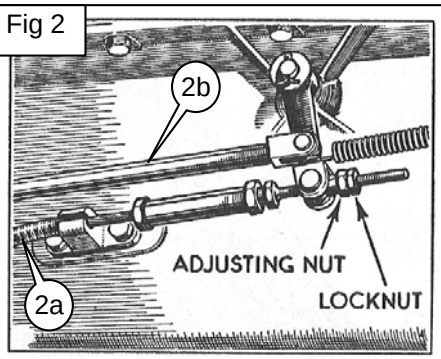
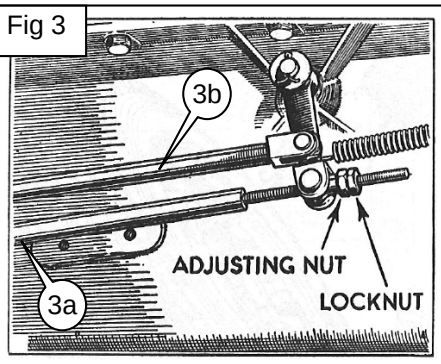


Fig 3



The factory abandoned the cable in favor of a rod, and from MG TD (c) 22251 on, all TDs and TFs came with a clutch operating rod. Over the years, many early cars with the cable were modified by replacing the cable with the operating rod. Regardless of which operating link was used, the clutch linkage rod (1d, 2b, 3b) was the same, a non-adjustable rod with a clevis fork on each end.
This also turned out to be a mistake, but unlike the operating cable problem, the factory never did address the problems caused by this non-adjustable linkage rod.

Why an Adjustable Link?

The original fixed length clutch linkage rod works fine when everything is new, but will not allow proper clutch engagement as parts wear. As the clutch face, flywheel, release bearing, and linkage components wear, or when a flywheel is resurfaced, the location of the release bearing changes relative to the fingers. The linkage rod must travel farther toward the rear to disengage the clutch. Figure 3 shows the relationship of all the clutch levers and rods at rest.

Fig 3

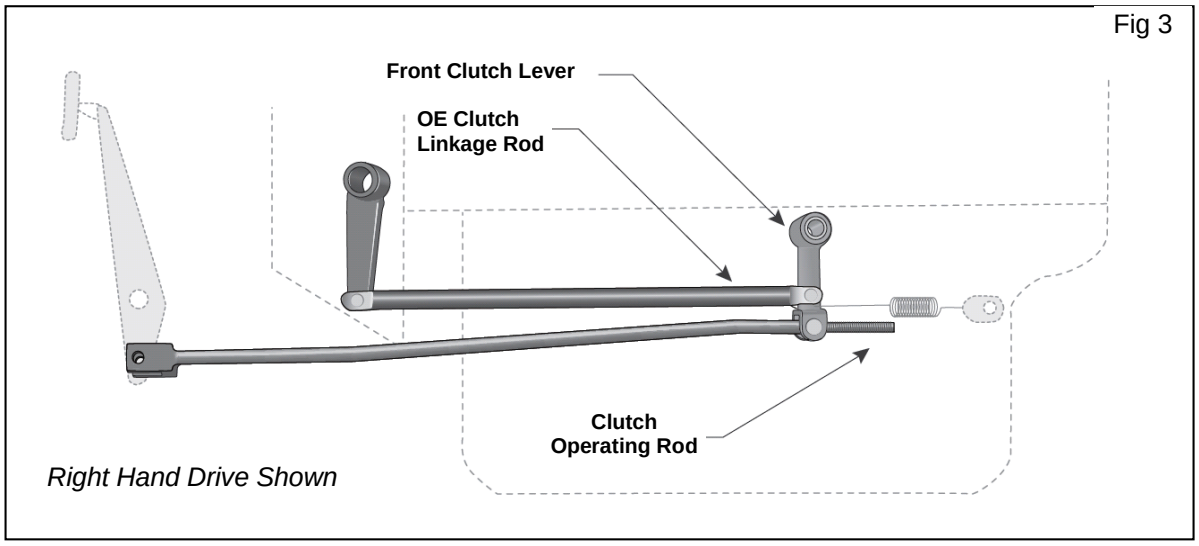
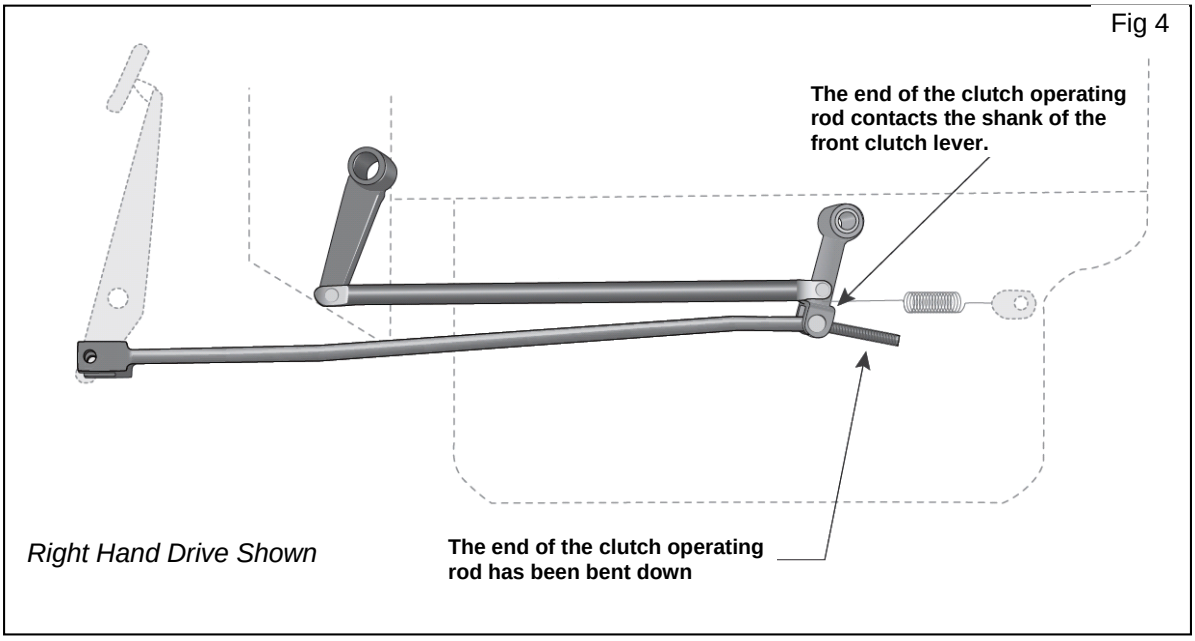


Figure 4 shows what can happen to the operating rod when clutch components wear.

Fig 4



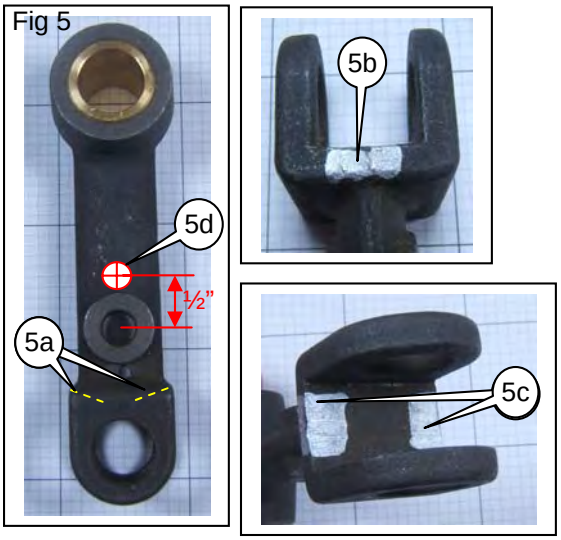
In addition to the clutch not working properly, the operating rod gets in a bind and it will bend at the threaded end. If your clutch operating rod is already bent, a new one (451-220) can be ordered from Moss Motors. While installing the new 190-422 adjustable linkage rod will generally keep the operating rod out of a bind, you should consider an extra step, which is explained on the next page.

Modifying the Front Clutch Lever (190-400)

The clutch lever (Fig 5) can be altered to give more room for the operating rod. Mike O'Connor, well know as a T-series Specialist, recommended that this be done on every car. Mike did this even when he fitted his own adjustable linkage rods.

By removing some of the material in the areas shown (5a, 5b, 5c) you can make it possible for the clutch lever to travel farther before the operating rod hits and binds. This modification, in conjunction with the adjustable linkage rod, makes all the difference. This material can be removed with a round file. Assemble the lever with the operating rod on the bench so you can see clearly what material needs to be removed.

Fig 5



Bonus Tech Tip

Mike O'Connor (along with other T series specialists) developed a modification to eliminate what he called the "clutch sensitivity complaint". The end result is a reduction in the amount of pressure you need to apply to the clutch pedal, and you will get smoother engagement.

Procedure

Mark a spot 1/2 inch above the center of the original hole for the linkage rod (5d). The arm is rounded at this point, but it does not matter.

Drill a new 1/4 inch hole. Check the fit of a new ¼" clevis pin.

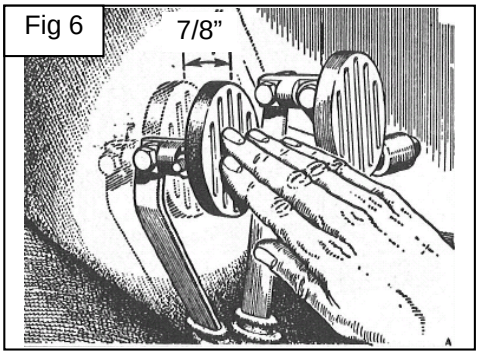
Reinstall the modified front clutch arm.

Normally, the free play at the pedal is ¾". With this modification, it is necessary to increase this to approximately 7/8" (Fig 6).

Take a test drive.

Mike's comment: "The effect on some cars is amazing."

Fig 6



Installation

This information is a supplement to, not a replacement for the Factory Workshop Manual. If you have any doubts about your ability to complete this installation on your own, have it done by a professional mechanic.

Adjust the rod so you have about 13" between the holes in the ends. *This is the length of the original linkage rod, and it is a good place to start. Remember that one end is threaded "backwards".*

Fig 6

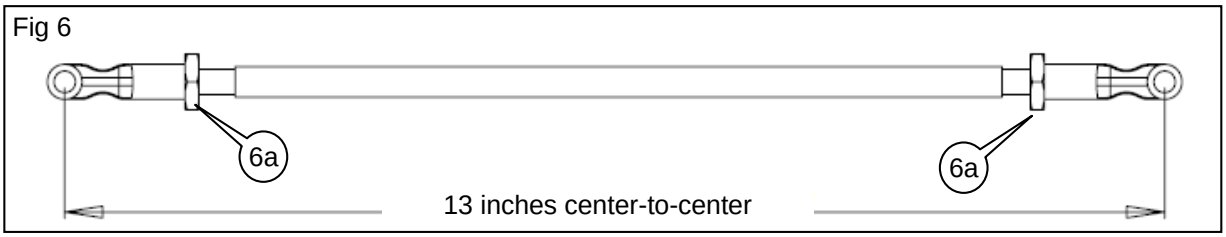


Fig 7

Install one rod end (Fig 7) onto the rear clutch lever (1e) by placing the supplied clevis pin through the rod end and the clutch lever and inserting the cotter pin (not supplied; re-use your old pins or obtain new ones locally).

Before connecting the front rod end, it is important to understand what you are looking for. The best adjustment will result in the situation shown in Fig 8. The lever moves an equal amount forward and back from vertical during operation. The length of the linkage rod should be adjusted until you achieve the balance shown in Fig 8. To lengthen the rod, rotate it counter-clockwise, to shorten it, rotate it clockwise. Make sure the operating rod does not bind up in the clutch lever when the pedal is pressed down. After making the final adjustments, tighten the jam nuts so the rod ends will not vibrate loose. Note: each clevis should be engaged at least 5 threads. Make sure the cotter/split pins are properly installed in both clevis pins.

Fig 8

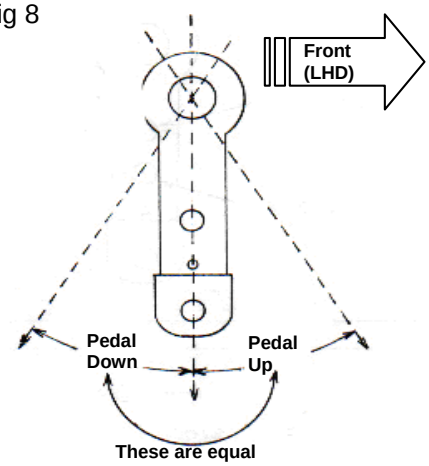
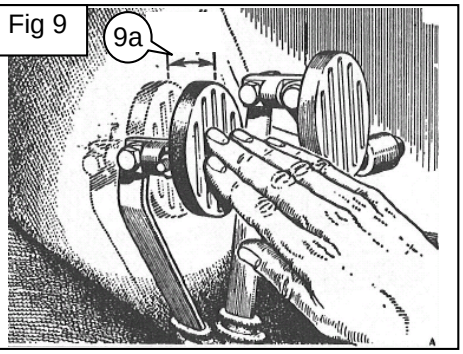


Diagram courtesy of Mike & Brian O'Connor

With the linkage rod adjusted, you can move on to pedal free play. If the free play is not adjusted properly, you can wear out a release bearing in short order.

Using light finger pressure on the pedal (Fig 9), see how much free play (9a) you have.

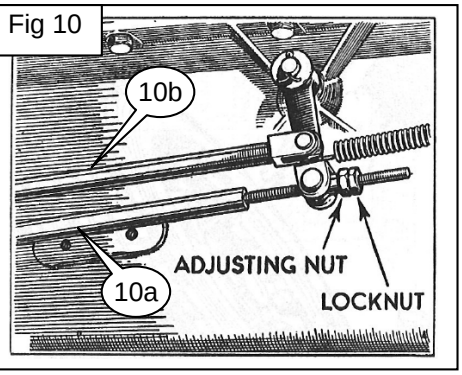
Fig 9



If you ***did not*** modify the clutch lever as described in the "Bonus Tech Tip" above, set the free play at the pedal (9a) to ¾" .
If you ***did*** modify the lever, you need 7/8" of free play at the pedal.

Pedal free play is set using the adjusting nut on the operating rod (10a), not the adjustable linkage rod you just installed to replace the original rod (10b). If you have a cable, the process is the same – use the adjusting nut (see Fig 2). This works best with one person in the cockpit and one under the car. Once the free play is set, tighten the lock nut (Fig 10) to secure the adjusting nut.

Fig 10



Check the jam nuts on the new linkage rod (Fig 6, 6a) and the free play adjustment after 5 miles of driving.

Although every effort has been made to ensure the accuracy and clarity of this information, errors and/or omissions on our part are almost inevitable. Any suggestions that you may have that will improve the information (especially detailed installation notes) are welcome. Please use the simple email form on the "Contact Us" page on the Moss website:
http://www.mossmotors.com/AboutMoss/ContactUs.aspx
If you prefer, you may call our Technical Services Department at 805-681-3411. So many people call us for help that we are often not able to answer the calls as fast as we'd like, and you may be asked to leave a message. We apologize in advance for the inconvenience. We will do our best to get back to you within 2 business days.

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