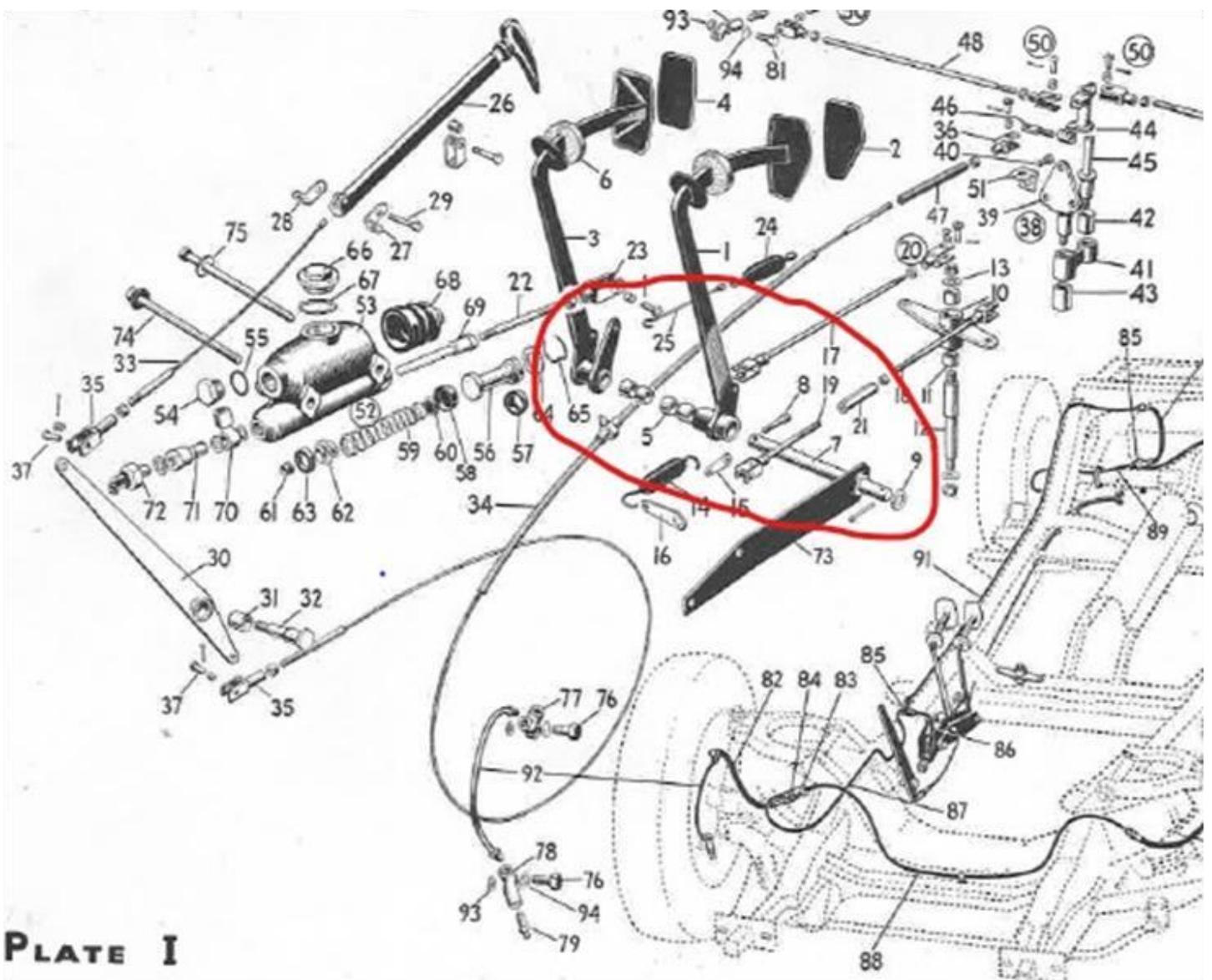


ALVIS WORKSHOP

Three Litre {TA-TC} Clutch and Brake pedal assembly overhaul. Richard Wallach

After sixty eight years the pedal assembly is being pulled down for the first time. In a previous article I discussed the replacement of the sintered bushings in the clutch reversing lever. These bushes are also used in both brake and clutch pedals as well as on the hand brake lever. To recap these bronze bushings are made of tiny metal spheres compressed into the required size. This type of bush absorbs and retains oil. They were designed to last the life of the car without further replenishment. The clutch and brake pedals have a pair each and they pivot on the pedal shaft {part no.C5917 – I-7 in the Catalogue of Spare Parts}. The image below, taken from the catalogue (page 42) provides an excellent representation of the relationship of the various parts.



The shaft {I-7} from my TA21- 24314 with a bush behind is shown below. The car has travelled a genuine 91000 miles.



You can see the four shiny pivot points. The two on the left are for the clutch and the other two for the brake pedal. There is wear on the end of the shaft where the outer clutch bush is located. There is no wear at all on the shaft where the brake pedal pivots. The replacement of the clutch bushes alone would not be sufficient as the shaft wear at the end bush is reasonably pronounced. The overall lack of wear on the shaft is a testament to the standard of metallurgy employed at The Works.

ALVIS used the same bush as the one employed in the clutch reversing lever for both clutch and brake pedals. A slightly larger version, used in the brake pedal of the TA14, is employed in handbrake lever {I-31}.

Removing the pedals is relatively straightforward. Whilst the toe board does not have to be removed the two piece metal housing through which the pedals enter the cabin does have to be taken out in order to remove both pedals. This may prove to be difficult if the fasteners are corroded. An easy task can soon turn out not to be the case. The floor board needs to be removed as this makes for easier access to both the clutch and brake linkage forks as well as the brake pedal return spring.

The removal of the pedal shaft itself is not difficult. On the outside of the chassis the shaft is held in place by a small locating bolt (I8). Unless badly corroded it is easy to take out. At the other end the supporting plate assembly needs to be removed, again a straightforward task. The plate is attached to the brake master cylinder by two bolts. The nuts can be removed and the bolts withdrawn sufficiently to free the plate but still maintain the cylinder in position. At the pedal shaft end all that has to be done is to remove the split pin and washer. The shaft can then be tapped through. I found it easier to tap the shaft through from the outer side chassis rail rather than from the brake master cylinder side. That said the clutch linkage at the gear box may have to be undone if it gets in the way of the exiting shaft.



The fork mounting hole on the clutch pedal had become quite oval and leading inside edge was thin. This was remedied by filling the hole with weld and redrilling. The image to the left shows the repair. There was no wear on the brake pedal.

Other overhaul issues involved replacing the pedal rubbers and the fabrication of two pedal buffers {I-6 in the Catalogue of Spare Parts}. A good quality contact adhesive is all that is required. To stop the edges of the pedal rubber from lifting I bound each pedal with electrical tape until the glue had set. The same was done to the pedal buffers. To complete the job a low gloss black paint was applied to each pedal.

Red Triangle was able to supply all the main parts. They did not stock the pedal buffers but these were easily made using thick cork gasket material instead of the original rubber.

It is possible to reverse the shaft and use the unworn section however the smaller hole can't be enlarged due the hardness of the metal. If the shaft is to be reused then a new fixing method to replace the little bolt at the chassis end will need to be employed. Large split pins (3.2 x 63mm)

will allow for the different hole size and could be used at each end. The larger "eye" of the pin is bigger than the shaft and bolt hole and the shank is a neat fit in the smaller hole. The pin is then trimmed to size.

I chose to purchase a NOS shaft and a set of bushes in order to complete the overhaul.

The bushes were soaked in hot oil prior to fitment. I used hot oil as this drove out the air and allowed the oil to penetrate as it cooled. The old bushes were easy to remove. A flat bladed screwdriver and hammer was all that was needed to tap them out. The new ones were pressed in using a standard bench vice.

It is worth noting that over the years the pedal buffers will have disintegrated, especially the brake buffer as it is held against the toe board by a spring. With new thicker buffers the brake pedal actuating rod may have to be adjusted in order to get the correct 1/32" free play at the cylinder end or 3/8"-1/2" at the pedal. Likewise the clutch pedal free play should also be checked. My 2018 article titled "Three litre pedal linkages with particular reference to TA-TC cars" explains the adjustment process in more detail.

The issue for TA-TC owners is twofold, namely to check the amount of sideways play in the clutch pedal as well as the amount of wear where the clutch fork attaches to the pedal. The latter is probably more critical as it could lead to failure.