

## HOW TO TUNE AND ADJUST YOUR BERKELEY CLUTCH

The following article was contributed by the Berkeley Enthusiasts Club president in 1998, Mike Rounsville – Smith, and applies to both Excelsior and Enfield engined cars. There are few people with more experience of our cars, and in particular crunching through the gears on a Berkeley than Mike. Changing down from 4th to neutral for a set of traffic lights which have caught you out is pretty difficult with a clutch in good working order - it's virtually impossible with a "doggy" clutch.

The Excelsior Engine Handbook available from Mike R-S includes sections on the gearbox and clutch. This article compliments the contents of the handbook.

### Method:

1. Remove the primary chain case cover and dismantle the clutch assembly.
2. Remove the clutch lever housing assembly.
3. Remove the 3 pushrods (items No. 10, 48, 49) from the gearbox main shaft.
4. Individually check the locating tags on each clutch plate and remove any burrs with a file.
5. Ensure the main nut securing the clutch basket is tight and that there isn't excessive movement when the clutch basket is pulled away from the gearbox.
6. Reassemble the clutch ensuring each spring is compressed equally when the bolts (No. 82) are tightened right down until the spacers (No. 79) prevent any further tightening.
7. Check that the ends of the pushrods are hard and not burred over. If burred over or slightly mushroomed, grind away gently to form a slight chamfer and re-harden the ends by heating until cherry red and then quenching in cold water.
8. Refit the pushrods into the gearbox main shaft after greasing, making sure that they move freely.
9. Check that there is approximately 5/32" gap between the mushroom head of pushrod No. 10 and the end of the gearbox main shaft, when the pushrod is pushed hard against the clutch. If the gap is insufficient, then a short length of suitably hardened rod must be fitted to increase the gap.
10. Refit the clutch lever housing (No. 5) and attach the clutch cable.
11. Get the wife (or husband) out of the kitchen and ask them to operate the clutch pedal. Ensure this separates the clutch plates and check that the clutch revolves freely without drag and that the springs have not become coil bound before the sleeve (No. 4) has come up against the clutch lever housing (No. 5). If the springs have become coil bound, re-adjust screw adjuster pin (No. 3) to give a gap of 1/8" between the shoulder of the sleeve and the clutch lever housing. If the springs are still coil bound then fit one or two 1/4" flat washers (the same thickness), between the ends of the 3 spacers (No. 79) and the spring pressure plate (No. 81). This will effectively increase the length of the spacers and give more clutch movement.
12. Road test the car (without the chain case cover fitted) for a short distance. If the clutch is dragging with hard gear changes then fit one extra washer as described above.
13. One word of warning must be mentioned. Always make sure that the sleeve (No. 4) has come up against the clutch lever housing (No. 5), before the clutch springs have become coil bound. Failure to do so will result in premature failure of the thrust bearing (No. 9) fitted inside the clutch lever housing.
14. The primary chain case can now be refitted and filled with oil.

### A Handy Tip:

With the engine in the still in the engine bay slide out the long rod in the gearbox main shaft until it touches the nearside or offside inner wing, then drill a hole where the rod touches the inner wing. The pushrod can then be removed into the wheel arch.

Happy motoring,