

This is the little spring that locks the gear selecting mechanism in place when you select a gear, or neutral. If it breaks then it will be hard to select neutral, and the bike will probably jump out of gear - more often in 3rd & 4th gear. In a worse case scenario, you may be stuck in one gear. Before delving into this it is worthwhile checking that your clutch is adjusted correctly as that may cause some of these symptoms if it is out of adjustment.

1. Put the bike on a jack. It is possible to do this without the jack and without removing the front wheel, but it is easier this way.
2. Disconnect the battery.
3. Remove the disk brake calipers, the front wheel, and the front mudguard. If you are doing this without lifting the bike then just take the mudguard off. Be careful not to scratch the mudguard.
4. Remove the radiator shrouds. You can leave the front screen on.
5. Remove the radiator cap (There is a 5mm bolt in the radiator cap which will need to come out before you remove the cap. I don't think that many people would lose sleep if it were to be lost, but try not to lose it.) and the bottom radiator hose from the water pump. Make sure that you have a large bowl with which to catch the radiator fluid. If you are careful to clean the area around the hose first, and have a clean bowl, then you can use the fluid again. If not, then that stuff is expensive - but it probably is about due for replacement anyway.
6. Remove the water pump cover. More fluid will drain out. (This is not strictly necessary but it will make it easier to put it all back together later.) There are three bolts on the water pump. The bottom two are longer than the top one. The top one also has a little washer to stop fluid leaking out. It is a good idea not to lose it, but a little bit of gasket goo around the top of the bolt will stop any leaks if you do lose it
7. Remove the two bolts holding the top of the radiator to the engine. This will allow you to tilt the radiator forwards.
8. Remove the top radiator hose, the overflow hose, and the hose at the bottom RHS of the radiator (just forward of the brake pedal).
9. Unplug the radiator fan cable. (You will need to lift the tank to do this as the plug is under there.)
10. Use a long extension (flexible ones are good here) from the RHS to remove the bolt at the bottom radiator mount. The radiator can then be pulled to the RHS and removed from its remaining "slip on" bracket.
11. Remove the clutch lever and let the cable loose. This can be done by screwing the cable adjustment all the way in, but lining up the grooves on the adjuster and the lock nut so that you can extract the cable. Unbolting the lever, removing it, and slipping the cable out of the lever. Make sure that you adjust the clutch correctly when re-assembling.
12. Remove the lock bolt in the clutch actuating lever (the other end of the cable). **N.B. Check how the dots on the lever and the arm match up before removing it. The dots should be aligned but they may be slightly off alignment. Remember how they look because they must go back together EXACTLY the same way!!!** Remove the lever.
13. Remove the bolts holding the front engine cover. Slacken them off a little in a diagonal pattern to evenly remove the pressure. There are about 20 of these bolts so use a pattern 1, 10, 15, 5, - 2, 11, 16, 16 – *etc.* Once they have been slackened a bit then you can undo them in any order you want. The clutch cable bracket and a water pipe are also held on by these bolts. (The water pipe will pull out when you have removed its bolts, and disconnected the hose at its other end.)
14. Remove the front cover. It may be on a bit tight but there are places on each side at the widest part of the bottom where you can gently lever it off. You will lose about two litres of oil so make sure that you have a big oil catching thing under there or the floor will catch it. If the cover is clean, and your bowl is clean, then you may be able to re-use the oil – but it may be time for an oil change any

way. You will probably find the remains of a broken detent spring as well.

15. You should see a clutch basket staring you in the face. It has 5 bolts which will need to be undone. These are not on very tight and are designed to break if over-torqued – which doesn't take much – so get a good feel of how easy they are to undo. Undo them a bit at a time in a diagonal pattern – 1, 3, 5, 2, 4 – until the springs are loose, then remove them and their springs.
16. Remove the front cover of the clutch – making sure not to lose the lifter or the little wavy washer.
17. Remove the clutch plates and steel plates. **N.B. It is very important that these go back in in the correct order and way. As you remove them stack them as they come out so that they will go back the same way they were. With the OEM plates they are not all the same and it is important that they go back correctly!!!**
18. Remove the anti-judder spring at the back – noting which way it is facing.
19. You will now see a 30mm nut facing you. It has a little indentation into a key-way to stop it coming loose. Use a small thin screwdriver (and possibly a hammer) to force that back out so that the nut will come off. A windy gun will then remove the nut very quickly. Failing that, you can either use the Triumph tool to hold everything in place or fabricate one out of old clutch plates and steels, or ask nicely on the forum and someone will probably send you one. I have done it both ways – the windy gun is easier and quicker.
20. Remove the rest of the clutch basket. There is a sleeve in the centre of it which holds a bunch of needle bearings in place. Be careful.
21. As you are looking into the front of the engine you will see the spot where the detent spring should be on the top RHS (left side of bike). It is a little lever with a small hole at its top end. If you move this lever then you will see how the mechanism works to hold the bike in gear by being pushed into the detents.
22. Insert one end of the spring into this little hole.
23. Using a reasonably thin screwdriver, pull the other end of the spring across to the left and hook it over the rod that is jutting out of the block. Do not use pliers to do this as I believe that they will nick the spring and cause a weak spot which will then cause it to fatigue and break.
24. Re-assemble everything in the reverse order above.

### **Things to note when re-assembling:**

1. When re-installing the clutch basket you may have to align the teeth on the gear where it connects to the crankshaft. This may need a large flat screwdriver to help persuade them to line up.
2. If you re-install the original 30mm nut then make sure that the windy gun returns it to the same place it was before then push the lip back into the keyway to stop it undoing. The manual recommends that you install a new nut and torque it correctly.
3. Make sure that the oil pump drive is engaged when the clutch basket is fully in.
4. Make sure that the clutch plates and everything else in the clutch basket goes back so that they are in exactly the same order and orientation as they were before you messed with them. Smearing them all over with oil is also a good idea.
5. **DO NOT OVERTIGHTEN THE 5 BOLTS HOLDING THE CLUTCH!!!** Slowly tighten them up in a diagonal order until they are all the way in, then firm them up. If you over-tighten them then they will break to save the clutch system. You will need to replace them with the correct OEM bolts or you may have some serious issues. That basket will spin very fast and if they are not balanced then you will have problems.
6. When attaching the front cover you will need to line up the water pump with its driver (this is why we removed the water pump cover earlier on) and also line up the clutch actuator arm with the clutch lifter. This is difficult with the OEM setup, but if you remove the spring on the arm and use an

external spring as per Warp9.9's modification, then life will be very much easier.

7. Make sure that the dots line up as they were originally on the clutch actuator lever.
8. After refilling the radiator, run the engine for a few minutes then top it up again. Don't forget to put oil back in the oil tank before re-starting the engine.