Yamaha Pannier Locks single key operation v1.1

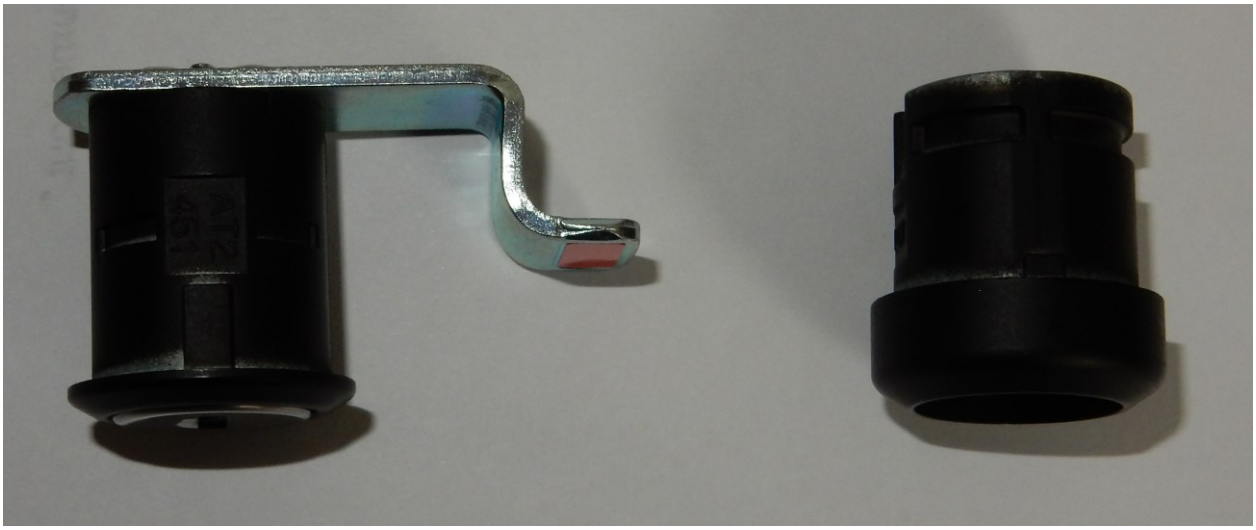
This document was originally written to rebuild or install the locks on the Yamaha Tracer 700 panniers so that one key operates all locks. This same process can be used on many Yamaha pannier locks and is known to work with the Tracer 700 and XJR1300 locks (basically the same units) and is believed to work on the Tracer 900 locks, although untested by the author.

In order to replace the locks, a new Yamaha "Key Cylinder kit" part number 59C-281C0-00 is required – approximately £26.00 each (in 2021). If the reader has a friend who has done this and has some spare tumblers and the reader feels nimble, it is possible to swap the tumblers round to the correct profile for the ignition key. Clearly this process needs to be done once for each pannier lock).

Tools required:

1) Torx T10 driver with a hole at the end (sometimes called security Torx).
2) A digital Vernier/Calliper – a mechanical one will do if the scale can be read in 0.25mm increments.
3) The working ignition key.
4) A tray to work on in case a spring or tumbler is dropped with a dark covering – they are very small parts and difficult to see if dropped!

Basically this "Key Cylinder Kit" is listed for the 900 Tracer (and other bikes like the FJR1300) and Yamaha will tell you that you can't use it on the 700 Tracer. This is not true as the actual lock assembly is identical as are the tumblers. The difference is in the black metal lock casing - this is shown in the photo below:



The original Tracer 700 lock is on the left hand side in the photo with the lock bar attached and the other lock casing is the one included in the kit. Other bikes lock casing may be used on other bikes; all that matters is that the lock barrel fits snugly in to the casing.

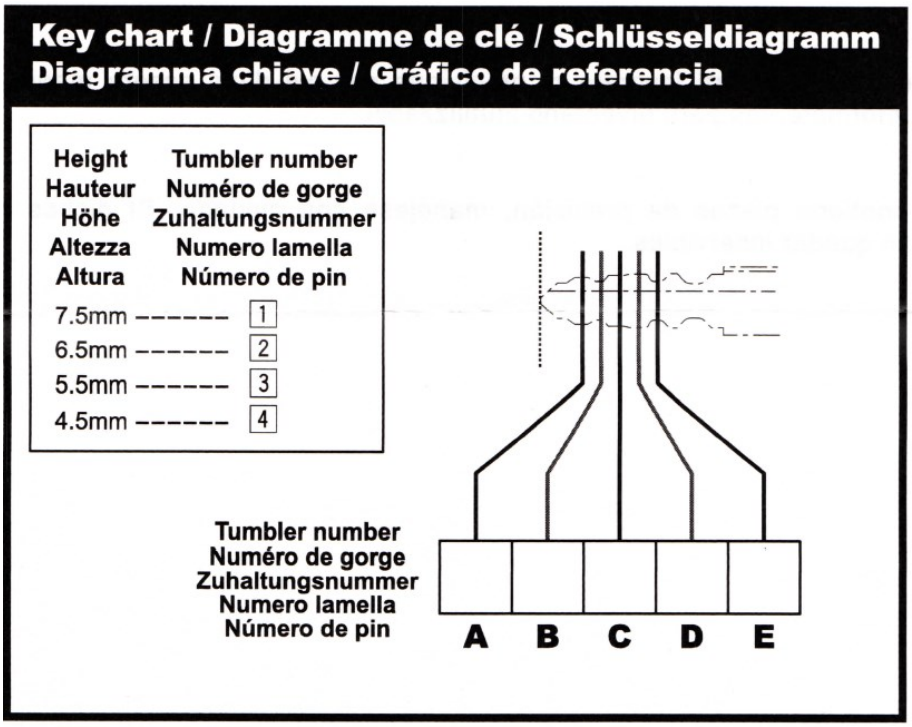
New Lock Keying process:

Step 1) Remove the lock from the pannier by undoing both T10 bolts from the rear of the lock casing and removing the lock bar. The lock will then come off the lock casing and out of the pannier. Remove both the lock and the lock casing.

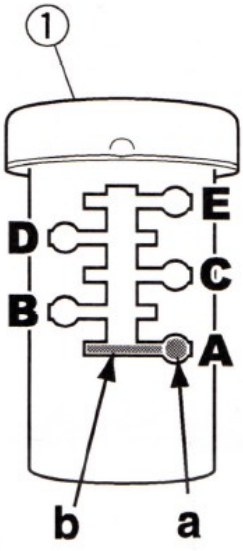
Step 2) If the 5 digit lock number is known, then this can be used in place of measuring the key. Previous experience has shown however that the 5 digit lock number is not the actual key number so the author would strongly recommend that the key is measured as detailed in Step 3.

Step 3) Measure the key width at the 5 widths shown in the Key Chart (shown below) using digital callipers or an accurate Vernier. In order to do this, start by aligning the tip of the key with the dotted line and then measure each location in line with the black line in the key chart. Use the

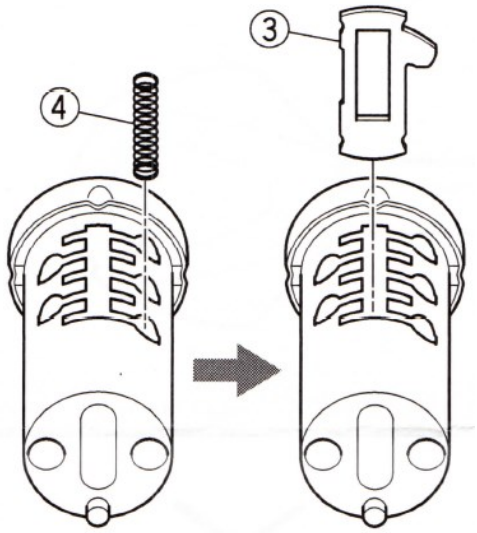
lookup table to convert the measurements of the key width into one of four different tumbler numbers. The author suggests writing down the tumbler number in the key chart for future reference in the boxes marked A to E. Note that with 5 tumblers and 4 different tumbler types that means that there are only 1024 (or 4^5) possible key profiles!



Step 4) The following should be done one tumbler location at a time so that the tumblers do not get mixed up. Start with the tumbler for location A and take the appropriate tumbler number from one of the Yamaha coloured, numbered zip bags with a spring ready to insert into location A in the lock moulding (part number 1 in the diagram) as shown below.



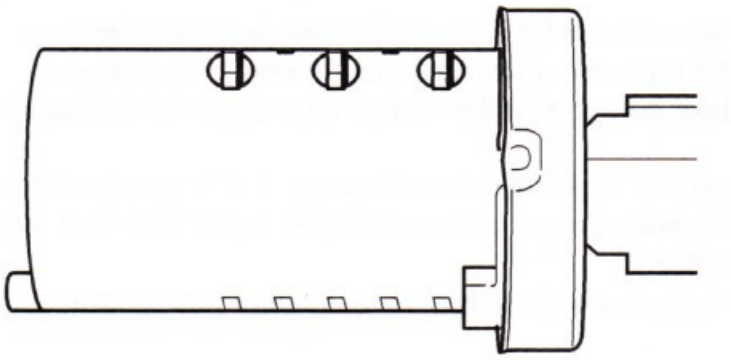
Step 5) Start by inserting the spring (part number 4) into the round hole in the lock moulding (**a** on the picture) and then the relevant sized tumbler (part number 3) as shown below. Note that the tumblers can only be inserted one way with the arm on the tumbler over the spring and holding the spring in place:



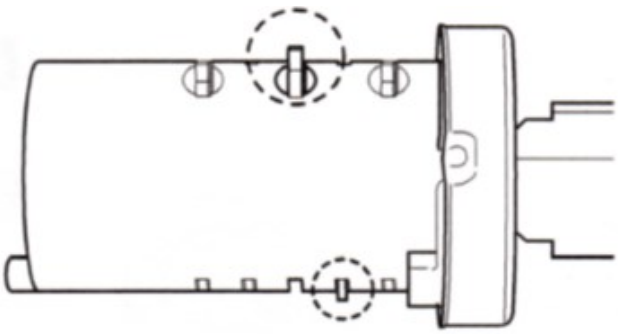
Step 6) Now carefully push the tumbler down until the tumbler “clicks” into place in the lock body using something to protect the brass tumbler, such as a piece of wood or hard plastic.

Step 7) Repeat steps 4 to 5 for the remaining 4 tumblers.

Step 8) Now insert the ignition key into the lock and check that all the tumblers are flush with the lock moulding with the key fully inserted. If any tumbler is proud of the lock moulding, then either the incorrect tumbler has been used or the key has been incorrectly measured. Once completed, with the key in the lock it should look like this:



In the event of an error with a tumbler insertion, proceed to “Removing Lock Tumblers” below. An incorrect tumbler assembly will look something like this: (tumbler C is wrong in this case)



Step 9) Now lubricate the lock and barrel – the author recommends silicon grease rather than WD40 as listed in the Yamaha instructions to give smoother operation. WD40 is fine however if there is nothing else available. In any event, only a small amount of lubricant is required! If the key is new, a small amount of lubricant on both sides of the key is a good idea to ensure that the inside of the lock is lubricated.

Step 10) Re-insert the lock in the old lock casing and insert into the pannier key lock mounting location. Note that this can only be done when the ignition key is inserted into the lock!

Step 11) Finally re-attach the lock bar and ensure that some lock compound is used on the two Torx T10 screws; the author used Loctite 222 as this compound allows disassembly in the future. Do not use strong locking compounds such as stud lockers as these will likely stop the bolts from being removed in the future! Torque the bolts to 1.2Nm.

Removing Lock Tumblers:

Start by covering the top of the tumbler so that it does ping out! Working over the tray, using a flat blade screwdriver with a 5 mm wide end, gently push into the bottom of the lock casing until the tumbler "clicks" and becomes free. Remove the screwdriver and carefully take out the tumbler and spring. Repeat for the other tumblers.

Fault Finding

With a simple lock such as this, providing the tumblers have not been mixed up or the key incorrectly measured, there is little that can go wrong.

Be sure to check the ignition key drops all the tumblers in the lock barrel (Step 7 above).

Not so simple to diagnose are worn tumblers, or worn tumblers in conjunction with a warn key. If rebuilding an old lock and it doesn't work correctly, try new tumblers that are not worn as the dimensions of the tumblers do not need to vary much to stop working!