

Grassbank Conversions

Comprehensive door handle system installation guide

Overview

The comprehensive door handle solution consists of a pair of stainless steel door handles ready to install. The driver's side handle is fitted with a lock barrel and two levers, one which operates when the push button is pressed and another which operates with the turn of the key. The passenger side has only the push button lever.

It is worth disassembling and re-assembling the door handle to understand how everything goes together and to apply loctite when you are ready to commit, especially the screw which holds the stem of the push button in place, we don't want that coming off. Take photos as you go.

The handles are supplied with a stainless steel M5 stud and a stainless steel M5 flange nut at the front of the handle. At the rear of the handle there is a socket cap M5 flange stainless steel set screw 12mm long.

The handle has a built in pivot onto which a lever must be mounted, they usually leave us with that in place. The lever has a couple of holes in it which provide options for how to attach the cable which is used to operate the push button door latch. An M5 x 16mm flange screw and Nyloc are provided. Don't Tighten this, just get the nyloc to keep the screw in place so that the lever will rotate freely

Also supplied is a length of cable for each lever and a couple of stainless steel ferrules, and some spare ferrules.

The mounting holes are 165.1mm apart and must be drilled for 5mm clearance. The main hole for the lock barrel needs to be around 25mm diameter.

The distance between the rear mounting hole and the centre of the lock barrel hole is 23.9mm. The mounting template for a detailed diagram of the fixing and mounting dimensions. When using the template document please ensure that your printer renders the image to the correct dimensions. Often it is necessary to slightly enlarge the image (to around 103.25%). After you print the template please ensure that the rectangle which says it is 150mm x 50mm actually does measure 150mm and not something less. As suggested in the template you will need a hole of at least 25mm but no more than 34mm. You may want to start with a 25mm hole and then strategically widen it to facilitate the insertion of the levers.

We provide a 3D printed rubber seat for the handles. Alternatives (originals) can be purchased from <https://alfastop.co.uk>. The seats look better when installed than when they arrive...

The supplier of your kit body will have provided instructions for how to fit their handles. This guide complements the kit manufacturer's advice. It will be necessary to cut a hole in the door's end panel to provide access to the door lock mechanism.

Installation procedure

- From the handle, remove the rear fixing screw and the front flange nut.
- Thread the cable through a stainless steel ferrule then through either (or both) of the holes in the latch release lever.
- Feed the end of the cable back through the ferrule.
- The lever is positioned above the Z3 latch so be sure to position the ferrule below the handle lever, not above it.
- Crimp the ferrule on to the cable.
- Do the same with the turn key lever
- Place the rubber seats on the base of the handles.
- Insert the handle's latch release lever through the large hole in the door panel and ease the rest of the handle's push button cylinder through the hole.
- It may be simpler to remove the key turn lever and re-attach it after the handle has been fixed to the body. If you do this make sure that you reseal the key lever in the correct orientation. Don't forget the octite when you're ready to commit.
- From inside the car use a hex key to insert and tighten the rear handle screw. You might want to add a drop of loctite.
- Fix and tighten the front flange nut onto the front stub and tighten. Again, when you are happy with the positioning you might want to add a drop of loctite.

Attaching the cable to the door release latch

The cable guide solution consists of a pair of handed door panel cover trims and a pair of handed cable guides. A jig is also supplied to facilitate alignment of the cable guides relative to the latch mechanism.

- Start by removing the two M6 bolts on the end of the door panel which fix the Z3 door lock mechanism to the door.
- Re-attach the door lock but with the jig in place. The jig has a cut-out at the top which aligns with the cut-out in the polished cover panels.
- Slip a trim panel between the jig and the door panel and align the holes in both the trim panel and the jig.
- Draw around the edge of the trim panel and mark the centres of the four M4 fixing holes.
- You now have a guide as to which bits of the door panel can be cut whilst allowing the trim panel to cover the hole and for the trim panel to be fixed to the door panel.
- Temporarily remove the jig and carefully create an access hole in the end panel of the door within the space that you just marked up.
- Fix a cable guide to the jig with the M5 x 40mm coach bolt
- Fix the jig back to the end panel. The cable guide should now be in the same position as it will spend the rest of its life. This allows you to fiddle with the cables and ferrules without concern about where the cable guide should be or having to faff around the decorative cover plate.
- Find the cable from the push button handle and feed it through the top of the J shaped section of the cable guide.
- Feed the cable through a ferrule.
- Wrap the cable twice around the bottom outside hole in the latch lever which should be just above the exit from the cable guide.
- Feed the end of the cable back through the ferrule.
- At this point it is necessary to set the cable tension.
- When the handle push button is pressed the built in lever at the handle end will provide around 50% more travel than is required for the handle latch to operate. **A bit of slack is essential.** No slack could cause major problems, read elsewhere about being deadlocked. Our system is designed to minimise the risk of unintended deadlocking which is more of a problem in systems which retain the original Z3 door handle.
- Ensure that the handle push button lever is hard against its lower stop so that the only way for it to move is up – when the push button is pressed.
- Ensure that the latch release lever is not under ANY tension. It must be at the full extent of its released state. The lever is spring loaded. **Pull and release the lever, it must stop naturally without any tension on the cable.**
- Introduce 1mm of slack into the cable path.
- In all likelihood you will be able to feed the cable through the latch lever and ferrule whilst operating the push button without the cable slipping through the ferrule when the push button is pressed. We recommend testing this several times (with the window or other door open) to ensure both that the operation is effective and that the lock mechanism doesn't deadlock.
- The latch should release when the push button is around half to two thirds of the way through its travel.
- When you are happy with the mechanical operation and the level of tension then you can crimp the ferrule onto the cable. A dog wrench or careful use of wire cutters should do the job.

Attaching the cable to the door door unlock latch

- Ensure that the key is turned to the unlock position. On right hand drive cars this will be when the key is turned anticlockwise (LHD cars it will be clockwise). In both cases the end of the lever will be pointing down and to the rear of the car. When the key gets turned to the unlock position the end of the lever will be pointing up and to the rear of the car.
- With the jig still in place find the end of the key turn lever cable.
- On the door lock find the door unlock lever (Take a look at the website, it's circled green on the last photo) <https://grassbankconversions.co.uk/product/classic-250-style-door-handles-in-stainless-steel/>
- The door lock lever operates a mechanism inside the door lock. Move the lever up and down a few times to become familiar with its operation and behaviour. When you push the lever down you will feel resistance and you will hear the mechanism operate as you push through. When you then lift the lever you will feel a bit of resistance. This **mid position** is the point that we are looking for. Between feeling this resistance and then carrying on to the end of its upward travel is the exact action which we want the turn key to deliver.
- Thread a ferrule onto the cable
- Lift the lever to its **mid position** and thread the end of the cable through the loop in the lever. Wrap it around the lever loop a couple of times and then back on itself.
- Feed the end of the cable back through the ferrule and remove any slack from the cable. The objective is to have no slack in the cable and for the lever to be in its mid position.

Finishing off

- Remove the cable guide from the jig and remove the jig from the door lock.
- Mount the guide onto the inside of the decorative cover plate.
- Fix the cover plate to the door panel.
- This will ensure that the cable guide is in exactly the same place as it was then it was on the jig.