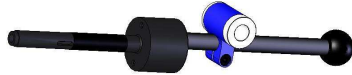


Instructions for GFB Short Shift Basic Kit for STi 6 speed transmission

Included in kit:

- 1 x gearstick



- 1 x pin remover, including:
2 x M5 slot screws



- 1 x 4mm hex key
- 1 x cable/zip tie

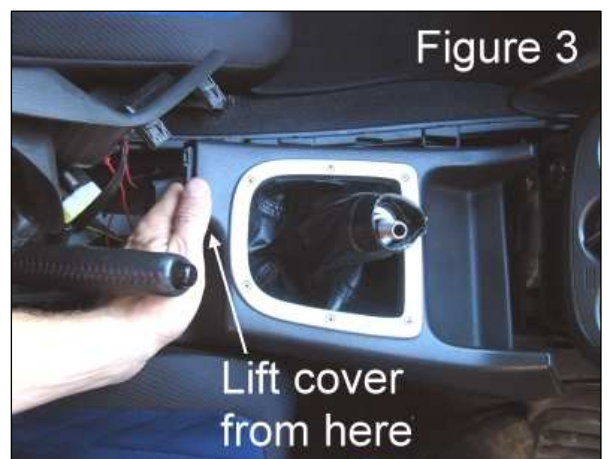
Required tools:

- 2 x 12mm spanner/wrench
- Medium flat-blade and Phillips screwdriver
- Side cutters/knife
- Circlip pliers (or pointy needle-nose pliers will suffice)
- Rag

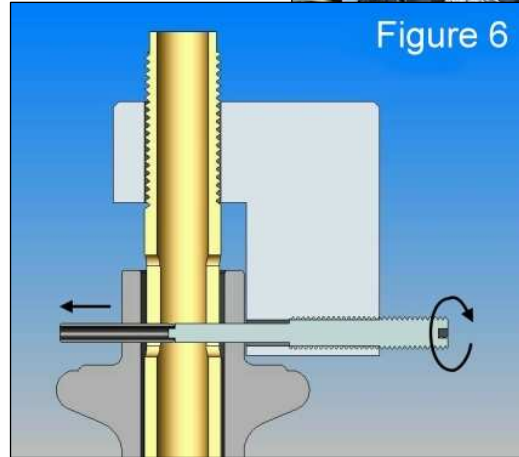
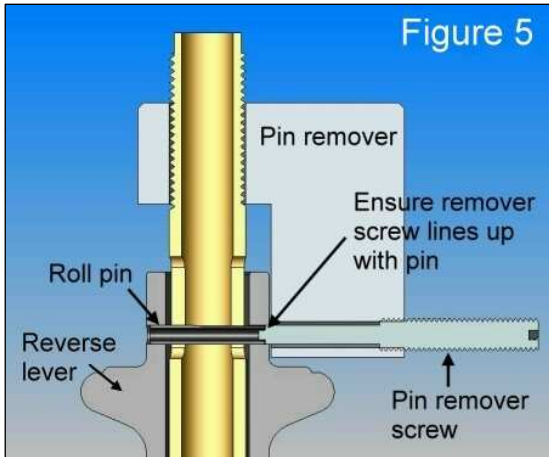
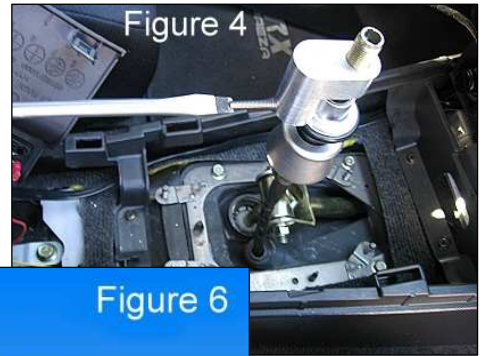
GFB Short Shift Kits carry a lifetime warranty which covers faulty components or manufacturing. Warranty is limited only to the repair or replacement of GFB products provided they are used as intended and in accordance with all appropriate warnings and limitations. No other warranty is expressed or implied.

We **HIGHLY** recommend you read through the instructions and familiarise yourself with the steps before starting installation of this product.

1. Lift the lid of the centre console between the seats above the handbrake. On the plastic handbrake shroud there are two slots, using the flat-blade screwdriver padded with a rag, carefully lever the shroud up on each side (there is a pop-type fastener on each side).
2. Lift the handbrake shroud out (taking care of wiring still attached), to give you access to the gearstick surround (figure 2).
3. Unscrew the gear knob and unclip the button fastener on the leather shift boot. Gently lift the plastic gearstick shroud up from the back, it is only lightly clipped in and does not need much force.



- Slide the pin remover onto the top of the gearstick (fig. 4). Thread the longer of the M5 slot screws into the threaded hole of the pin remover, making sure to line up the end of this screw with the roll pin as shown in figure 5. Watch the pin as you wind the screw in, it should push easily out the other side (fig. 6). If not, stop and check the screw is properly aligned with the pin.



- Once the pin comes out completely, remove the screw and pin remover. The reverse lock cable will spring down at this point; don't worry, it will be retrieved during re-assembly.
- Cut the cable tie that holds the reverse lock cable to the gearstick (fig. 7). Using the two 12mm spanners, remove the bolt that holds the linkage to the gearstick (fig. 8).



- Use the circlip (or needle-nose) pliers to remove the circlip retaining the gearstick ball cup (fig. 9). Pull up on the gearstick as you close the circlip, it should lift out once the circlip clears its groove. Pull the reverse lock cable out of the gearstick as you lift it out.



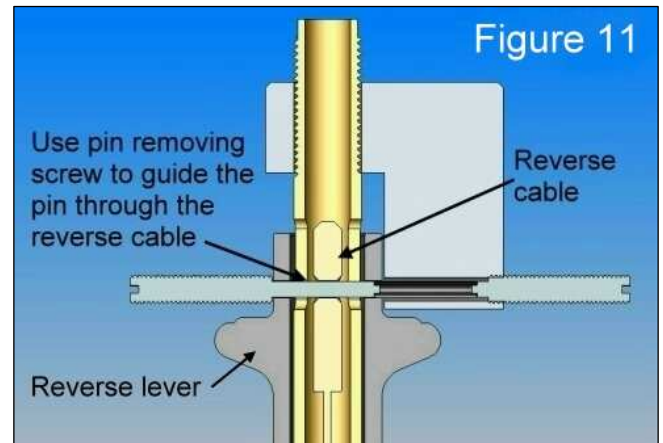
- Transfer the ball cup and circlip to the GFB gearstick (the ball cup spreads apart easily to allow this), making sure there is sufficient grease in the cup. Remove the silver plastic boot collar (undo 2 phillips head screws from underneath), reverse lever, spring, and rubber spring seat from the factory gearstick and fit them onto the GFB gearstick (fig. 10). Slip the factory steel sleeve into the bushings in the GFB gearstick, again ensuring there is sufficient grease on both parts.



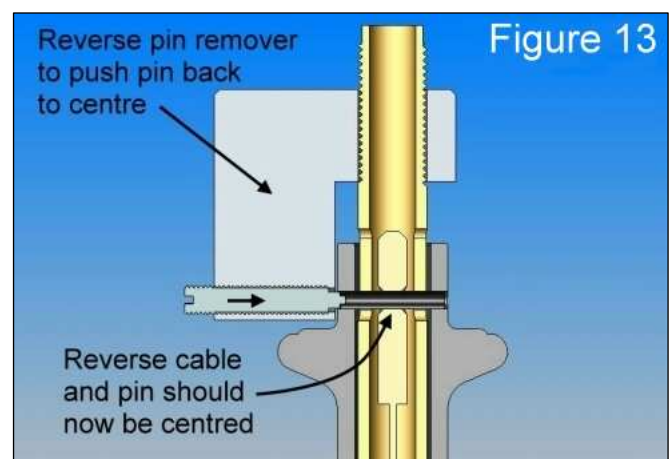
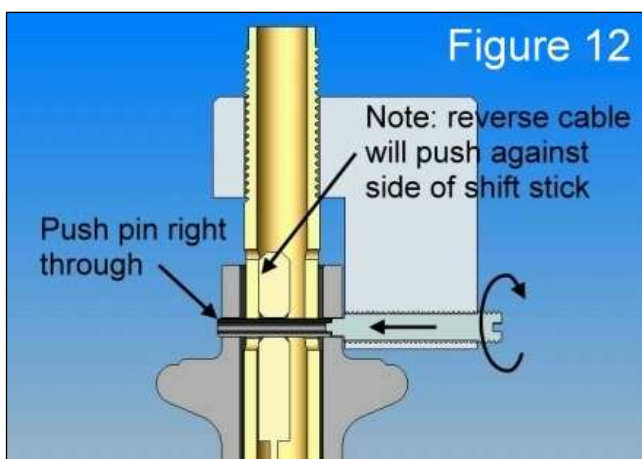
- Replace the assembled GFB gearstick back into the factory position, and fasten it in place with the circlip.

10. At this point it is necessary to lock the reverse cable in an extended position in order to be able to replace the roll pin. To do this, pull on the cable and simultaneously twist the linkage clockwise, then pull it back to select reverse gear. You may need to vary the distance you extend the cable to properly select reverse. Once reverse is selected, the reverse cable will remain extended when you let it go. If you have difficulty at this point, it may help to temporarily bolt the linkage to the gearstick and use the gearstick to help select reverse. **Make sure to leave the linkage in reverse until the end of step 12.**

11. If you have used the gearstick to assist in step 10, it'll help to unbolt it for this step. Slide the reverse cable up into the top half of the gearstick. The hole in the swage at the end of the cable should line up with the slot in top of the gearstick (twist the cable or rotate the gearstick if necessary). Line up the hole in the reverse lever, then push the longer of the M5 slot screws (the one used in step 4) through the reverse lever, the gearstick, into the reverse cable swage, and out the other side (fig. 11). This step will line up all the parts and helps to guide the roll pin in easily. If the reverse cable does not reach high enough to insert the pin, re-check step 10.



12. Put the pin remover back onto the gearstick, and drop the roll pin into the threaded hole, followed by the shorter of the two M5 slot screws. Make sure the end of the roll pin is lined up with the end of the long M5 slot screw (fig. 11), then begin screwing it into the gearstick. If aligned correctly, the roll pin will push the longer M5 slot screw out of the gearstick as it goes. Continue until the pin is pushed about 1mm BEYOND centre (figure 12). Now unwind the short M5 slot screw, spin the roll pin remover 180 degrees and push the pin back the other way until it is centred (fig. 13). This will ensure the end of the cable is held in the middle of the gearstick, instead of rubbing against the side (look down the hole in the top of the gearstick, you will be able to see the position of the cable).



13. Shift into neutral by pushing forward on the linkage, then check that the reverse lever slides up and down smoothly. Now fasten the reverse cable to the gearstick with the supplied zip tie.

14. **IMPORTANT:** Make sure the factory steel sleeve is inserted into the white bushings of the gearstick clamp – without this sleeve the shifter will not operate properly. Line up the sleeve with the holes in the linkage and pass the factory bolt right through, securing it with the nut (figure 14).
15. At this point you will need to decide how short you want the shift throw to be. This is determined by the height of the clamp on the gearstick relative to the pivot ball – the higher the clamp, the shorter the throw (**Note:** the shorter you make the throw, the more force will be required to shift, this is normal).

Note that as you slide the clamp up and down, the neutral position of the gearstick will move slightly. When you have selected a suitable position for the clamp, check that you can select all gears (including reverse) smoothly, making sure the linkage does not hit the transmission tunnel in 1st gear (see arrow in figure 14). Replace the plastic shrouds in the reverse order of removal.



Notes on short shifters – worth a read...

It is a common misconception that short shifters are hard on synchros, and that premature wear is likely. This is not true in the slightest. The only thing that can possibly cause accelerated synchro or gearbox wear is poor shifting technique, or rushing gear changes. It is possible that having a short shifter may encourage abusive shifting, so the limits of the synchros should always be observed.

The shifter is merely a lever that transmits movement to the gearbox. When you shorten the shift throw, it feels like you are working the 'box harder, because more force is required to shift. In actual fact, the force that the gearbox requires to shift gears is exactly the same – the shifter cannot change that. However, by reducing the throw, you also reduce the amount of leverage (or more correctly, mechanical advantage) that you have over the gearbox, and therefore you have to apply more force to the gearstick to achieve the same shifting force at the gearbox.

Also note that Subaru themselves have progressively shortened the shift throw of the WRX significantly over the years, from about 70mm per gate in the early MY97 models down to 50mm for the post MY01 models, and the STi is even shorter again.

So next time someone tells you your synchros will wear out because of your shifter, you'll be able to set the record straight.

Subarus are commonly known for a notchy shift feel, but the good news is the shift quality of your gearbox can be vastly improved by using good quality oil. The oil used by Subaru is often cheap and not ideal, and replacing it with a reputable synthetic (not just an additive) will do wonders for cranky 'boxes, particularly when selecting 1st gear or when the oil is cold.

If you would like to shorten the shift throw of your GFB shifter even further, you can purchase the linkage clamp separately that brings this kit up to the full 4002 spec, meaning the shift throw can be reduced by another 15%. The part number for this linkage clamp is 4202, contact GFB on +61 (0)2 9534 0099 or email sales@gfb.com.au for more info.