

## New Sigma 6 Shifter Install

These instructions might seem lengthy, but they are thorough and most people appreciate that. This install should take about an hour to perform. All model descriptions assume left hand drive and North American models. Check out our Install Guide Video:

<http://www.youtube.com/watch?v=B5EMACf8tKQ&feature=plcp>

(The link is for Part 1 of 4, the other 3 videos are linked from that page.)

### Tools Needed

- 3/8 drive ratchet
- 12 inch extension in 3/8 drive size
- 10mm socket in 3/8 drive size (needed for MK4 only)
- 13mm short socket (Figure 1) in 3/8 drive size (not a deep socket)



Figure 1 – 13mm Short Socket

- Vice grip (Figure 2) or channel lock (Figure 3) pliers for MAF clamp (TDI, VR6, 2.0T)

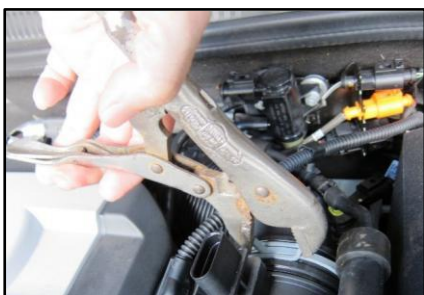


Figure 2 - Vice Grip

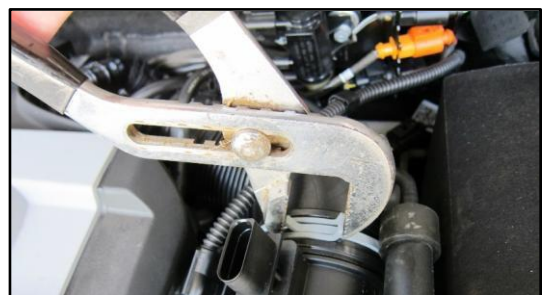


Figure 3 - Channel Lock

- Regular screwdriver for 1.8T MAF clamp on MK4 GTI and Audi TT
- 3/8 box end wrench (Figure 4)



Figure 4 - 3/8 Box End Wrench

- Allen sockets in 4mm (or 5/32), 5mm, and 6mm (Sears has good, cheap sets Figure 5)



Figure 5 - Allen sockets

- Leather work gloves

## Accessing the Shift Mechanism

1. Always work on a cool car. These engines get hot! You will burn yourself otherwise.
2. Park car on level ground, set hand brake. Daylight really works best for seeing what you are doing. Pull hood latch and open hood.
3.
  - a. **For 2000-2006 MK4 based cars only:** You will need to remove the air box to do this install. The air box is held in by two 6mm bolts (with 10mm heads), one behind the battery box and the other behind the air box by the strut tower. Unplug the mass airflow sensor electrical plug (there is a catch in the middle (Figure 6) that must be pressed to release the plug) and loosen

and remove the hose clamp for the mass airflow sensor (MAF) with a regular screwdriver (1.8T) or a pair of vice grip or channel lock pliers or specialized hose clamp pliers (all other engines). Remove the passenger side vacuum hose (TDI) or air injection hose (Figure 7) (1.8T and VR6) from the air box by gently but firmly squeezing where the serrations are on the outer ring. (Figure 8). It is sort of thin and brittle so do not get ham fisted with it or it might break. Tuck (Figure 9) it in front of the battery box to make room for doing the install. After the air box is removed all MK4 owners must skip to next section "**Remove your stock shifter**".



Figure 6 - Catch in the Middle



Figure 7 - Air Injection Hose



Figure 8 - Squeezing Where the Serrations Are On the Outer Ring



Figure 9 - Tuck it in Front of the Battery Box

- b. **For 2006-2011 MK5 and MK6 cars only:** You will also need to remove the air box (Figure 10) to gain access to the shift mechanism. First, pop off the air box snorkel cover (Figure 11) by lifting up (Figure 12) on all three catches (Figure 13). Once the cover is off make a mental note of which groove the round snorkel sits in. (Figure 14) Next, remove the lower snorkel cover by pressing the two catches (Figure 15) (shown with yellow paint) on the sides and wiggling it down and out.



Figure 10 - Air Box



Figure 11 - Air Box Snorkel Cover



Figure 12 - Lift Up On All Three Catches



Figure 13 - Lift Up On All Three Catches

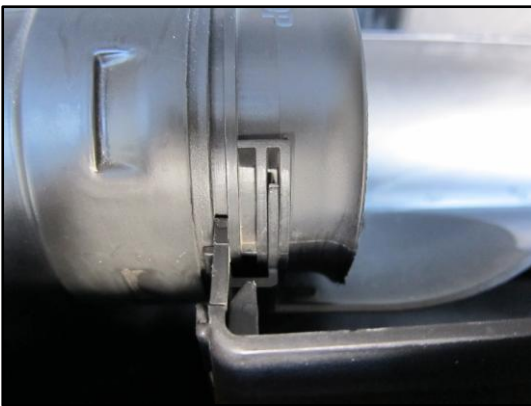


Figure 14 - Make a Mental Note of Which Groove the Round Snorkel Sits In

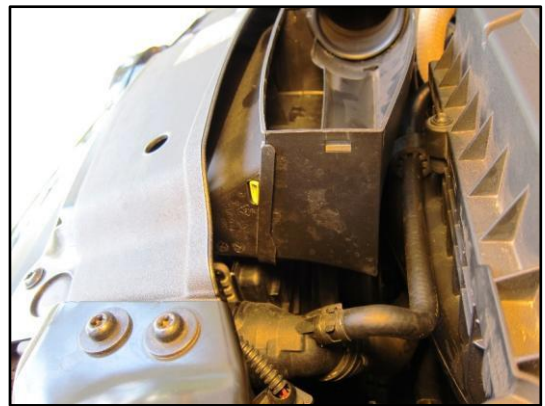


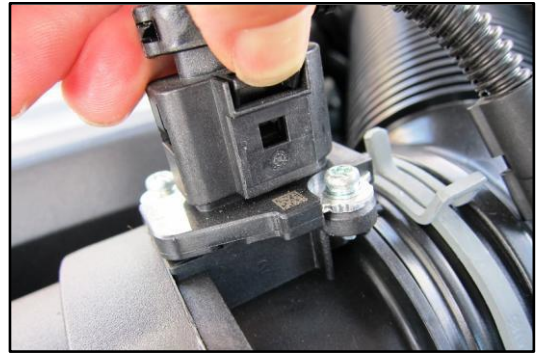
Figure 15 - Remove the Lower Snorkel Cover by Pressing the Two Catches

4. **For 2006-2011 MK5 and MK6 cars only:** Next, unplug the mass airflow sensor electrical plug. The MAF plug has a tab in the middle (Figure 16) that must be pressed upwards (Figure 17) to release the catch on the plug. Next, remove the light gray spring hose clamp holding the flexible air pipe (Figure 18) to the mass air flow sensor (MAF) with a pair of Vice grip (Figure 2) or channel lock (Figure 3) pliers and set the clamp just behind (Figure 19) the normal clamping position. On

TDI only, slowly and carefully detach the small rubber vacuum hose (Figure 20) attached to the top neck of the air box and set the vacuum hose on the battery cover, out of the way.



**Figure 16 - Tab in the Middle**



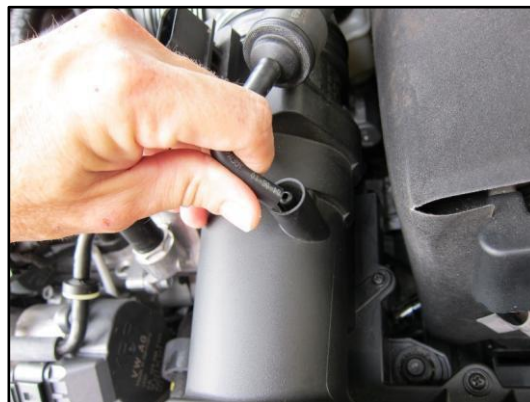
**Figure 17 - Pressed Upwards**



**Figure 18 - Remove the Light Gray Spring Hose Clamp Holding the Flexible Air Pipe**



**Figure 19 - Set the Clamp Just Behind the Normal Clamping Position**



**Figure 20 - Small Rubber Vacuum Hose**

5. **For 2006-2011 MK5 and MK6 cars only:** The air box is held in by one 5mm Allen screw (Figure 21) on the backside (Figure 22) and two rubber and plastic (Figure 23) quick-release barbed mounts on the bottom of the air box. After the 5mm Allen screw is removed the air box comes off its rubber mounts by carefully pulling it straight up. After the air box is popped off of its rubber mounts, you must detach the corrugated black plastic water drain hose (if present) from the bottom driver side of the air box by reaching underneath (Figure 24) and pinching the two ribbed areas (Figure 25) on the hose fitting (Figure 26). (In the preceding picture the catches are at 3 o'clock and 9 o'clock and the ribbed pinch areas are at 12 o'clock and 6 o'clock.) Removing this drain hose is probably the trickiest part of the whole install.

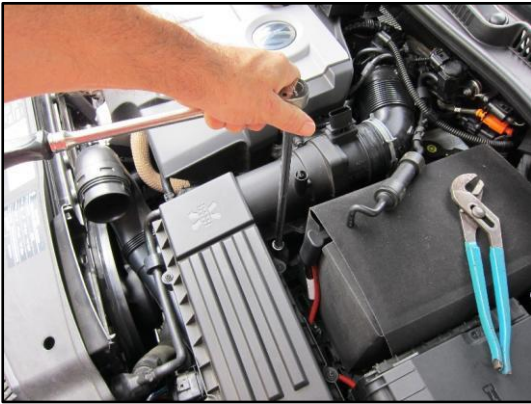


Figure 21 - 5mm Allen Screw



Figure 22 - Allen Screw on the Backside



Figure 23 - Two Rubber and Plastic Quick-Release Barbed Mounts

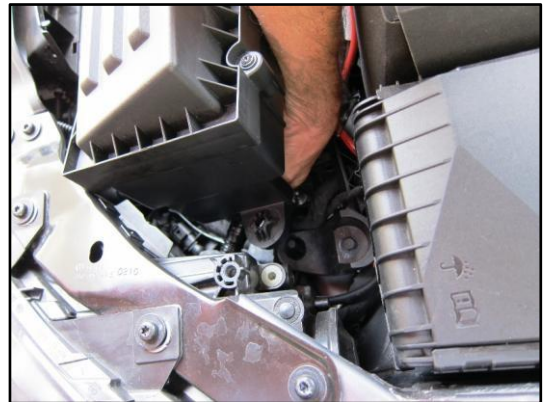


Figure 24 - Reaching Underneath the Airbox



Figure 25 – Pinching the Two Ribbed Areas



Figure 26 - Hose Fitting

6. **For 2006-2011 MK5 and MK6 cars only:** If present, remove the flexible duct (Figure 27) from the big plastic tube on the back of the air box bottom (shown with the air box cover removed for illustration purposes only). This hose is down low on the back end (Figure 28) of the air box between the battery and the engine. It simply slides off. Finally, remove the entire air box assembly by maneuvering its intake snorkel underneath (Figure 29) the thin upper radiator hose. Set air box aside.



Figure 27 - Remove the Flexible Duct



Figure 28 - Hose is Down Low On the Back End



Figure 29 - Maneuvering the Intake Snorkel Underneath

## Remove Your Stock Shifter

1. Looking down to the transmission you will see the stock shift linkage (Figure 30) with two shift cables running back towards the center of the car. You can look at the new dieselgeek.com short shift parts and visualize how the new parts go in place. Even if you're a Pro and you think you can intuit your way through this install, don't do it. Please follow the directions!



Figure 30 - Stock Shift Linkage

2.
  - a. **For 2000-2007 cars:** The next step is to remove the shiny metal clip for the silver side to side shift bracket. (Figure 31). It has a small catch in the middle that is best undone with a fingernail. Be very careful not to lose this clip. On all 2002 and newer cars there are spare shiny clips (
  - b. Figure 32) holding on your OE cable ends. The VW/Audi part number for the shiny clip is N 908 159 03.





Figure 31 - Remove the Shiny Metal Clip for the Silver Side to Side Shift Bracket



Figure 32 - Spare Shiny Clips

- c. **For 2008-2011 cars:** The side to side shift bracket in 2008 and newer cars is made of black plastic (Figure 33) rather than steel. It is held in place by a white plastic clip (Figure 34). To remove this clip, pry apart the legs (Figure 35) of the U shaped clip (Figure 36) to release the catches and the clip will release in the upward direction.



Figure 33 - Black Plastic Bracket



Figure 34 - White Plastic Clip



Figure 35 - Pry Apart the Legs

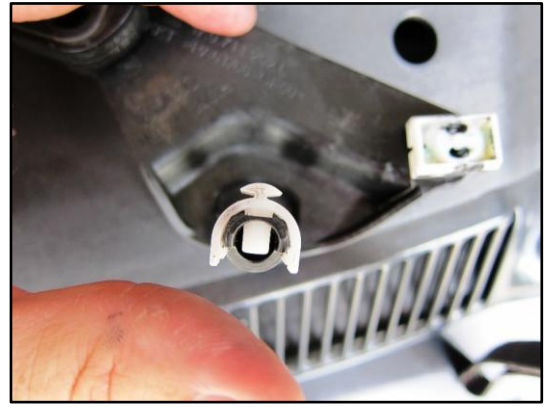


Figure 36 - U Shaped Clip

3. **All cars:** Detach both of the shift cable ends (Figure 37) from the shift cables by pulling each of the knurled plastic rings (Figure 38) toward you and against the coil spring and turning it clockwise (or counter-clockwise depending how you look at it) against its stop to unlock (Figure 40) the cable ends. This will allow you to slide the cable ends off (Figure 39) of the threaded cables.



Figure 37 - Shift Cable Ends



Figure 38 - Pulling Each of the Knurled Plastic Rings



Figure 39 - Slide the Cable Ends Off



Figure 40 - Turning It Clockwise Against Its Stop to Unlock

4.

- a. **For 2000-2007 cars:** Push the side to side cable toward the firewall (Figure 41) and pull it out of the open side to side cable end. Next, slide the side to side bracket towards the driver side of the car (outside) (Figure 42). There are two round white plastic pivot bushings (Figure 43) installed in the transmission for this bracket. Make sure that the round white plastic bushing on the driver side (LHD) slides out of the aluminum tube **with** the silver side to side bracket. The bracket cannot be removed without the white plastic bushing. Remove the round white plastic bushing from the stock silver shift bracket and transfer it to the new Dieselgeek side to side bracket (Figure 44) (PN: DG0039). Place the stock side to side lever in the Sigma shifter box for storage.



Figure 41 - Push the Side To Side Cable toward the Firewall



Figure 42 - Slide the Side To Side Bracket towards the Driver Side of the Car



Figure 43 - Two Round White Plastic Pivot Bushings



Figure 44 - Transfer the Bushing to the New Dieselgeek Side To Side Bracket Side To Side Bracket

- b. **For 2008-2011 cars:** Push the side to side cable toward the firewall (Figure 45) and pull it out of the open side to side cable end. Next, rotate the black plastic side to side shift bracket toward the firewall and slide it out of the pivot tube toward the right. Once the stock bracket is removed, replace the white plastic clip (Figure 46) removed in Step 2b. Place the stock side to side lever in the Sigma shifter box for storage.

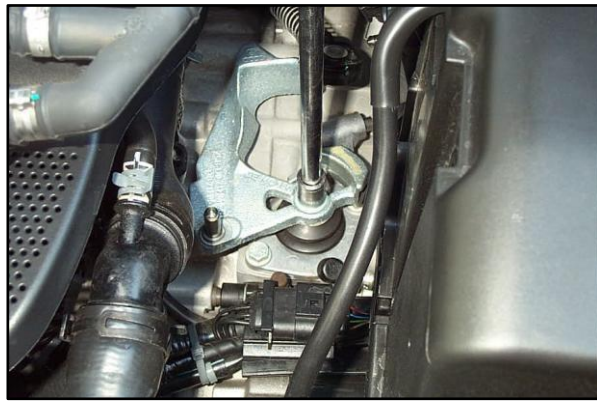


Figure 45 - Push the Side To Side Cable toward the Firewall



Figure 46 - Replace the White Plastic Clip

5. Using a 13mm socket, 12 inch extension bar and ratchet (Figure 47), remove the 13mm nut holding the *large flattened chrome* shift bracket to the transmission. The shift mechanism will rotate counter-clockwise into gear as you loosen this nut. This is not a problem. After you remove it, the 13mm nut will not be reused with the Sigma shifter.



**Figure 47 - Remove the 13mm Nut Holding the Large Flattened Chrome Shift Bracket to the Transmission**

6. Use leather gloves for this step! After the 13mm nut has been removed, you will need to put the selector shaft in the middle or neutral position (in neutral, the chrome piece can be moved up and down) and pull up evenly with two hands to remove the chromed shift bracket from the splined selector shaft of the transmission (Figure 48). Use some control since you might hurt yourself when the bracket does finally come free of the selector shaft. For really new cars, some people have used a battery terminal puller (Figure 49) to remove the chrome bracket from the selector shaft (A two jaw puller also works). This can be sourced from most auto parts stores for around \$5.00. I have never needed one myself. All I can say is that on stubborn brackets, the piece will come off! If the splines are new and tight and it will take a few minutes to get the bracket off. Pulling it up straight without cocking it is the secret. Once removed, place the stock front/back shift lever and 13mm nut in the Sigma shifter box for storage.



**Figure 48 - Remove the Chromed Shift Bracket from the Splined Selector Shaft of the Transmission**



**Figure 49 - Using a Battery Terminal Puller to Remove the Chrome Bracket from the Selector Shaft**

## Install Sigma Shifter:

1. The very first thing you must do to ensure a trouble free install and adjustment of the Sigma shifter is to slide each of the aluminum cable ends onto the appropriate

shift cables to ensure that they slide easily on the cables. The adjustment procedure requires that the cables not hang up inside the Sigma cable ends. The front to back bracket (Figure 50) has a splined hole and a copper nut on the pivot bearing. This bracket's cable end should be slid (Figure 51) onto the cable closest to the engine. In the rare case that the cable end does not slide back and forth freely on the threaded part of the shift cable you must open up the gap in the aluminum cable end by removing the first Allen screw from the cable end. Next, thread in a 6mm screw and then slip in a thin washer into the gap for the 6mm screw to push against to open up the gap like this (Figure 52). You should only tighten the 6mm screw enough for the cable to slide easily inside the cable end and no further. With the gap opened up you will be able to slide the cable end freely onto the shift cable. Leave the washer and 6mm screw in place until you get to the adjustment procedure. **Do not proceed** with the install if you cannot get the shift cables to slide freely inside the cable ends. Please call us at 210-852-4819 if you get hung up at this step and please leave voice mail if we are out of the office. We will get back to you. Please note that shifters sold before July, 2010 will not have the 6mm threaded holes in the cable ends but you can spread the gap open like this (Figure 53) with stubby flat head screwdriver pushed into the slit.



Figure 50 - Front to Back Bracket



Figure 51 - This Bracket's Cable End Should Be Slid Onto the Cable Closest To the Engine



**Figure 52 - Open up the Gap**

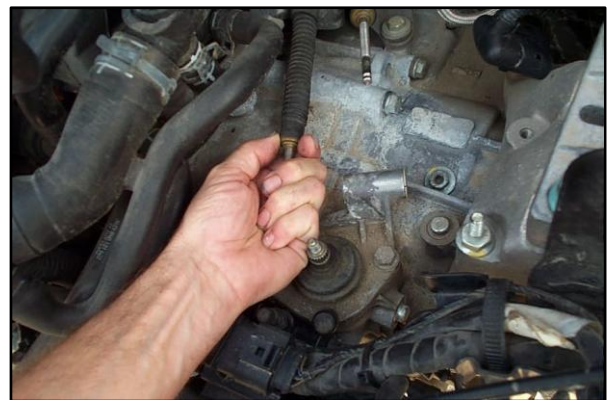


**Figure 53 - Spread the Gap Open like This**

2. If both cable ends slide smoothly onto the shift cables you can then use a 4mm Allen wrench and your 3/8 box end wrench (Figure 4) wrench to tighten the Allen screws of the two aluminum cable ends until they are almost snug (very slightly loose). This will make the adjustment easier. Be careful though, if you tighten the Allen screws too much the shift cables will not move freely in and out of the cable ends. As mentioned before, it is imperative that the cables move in and out freely for proper adjustment!
3. Next, pull back the front to back cable rubber boot (if present) and plastic ring to expose all threads (Figure 54) of this cable. (This is the cable on the engine side that was attached to the chrome shift weight.) These plastic rings can be very tight and some people have had success with pulling the plastic ring toward the front of the car (Figure 55) to break them loose. After it has been broken loose, slide it toward the rear (Figure 56) of the car to expose all of the threads and smooth cable (Figure 57).



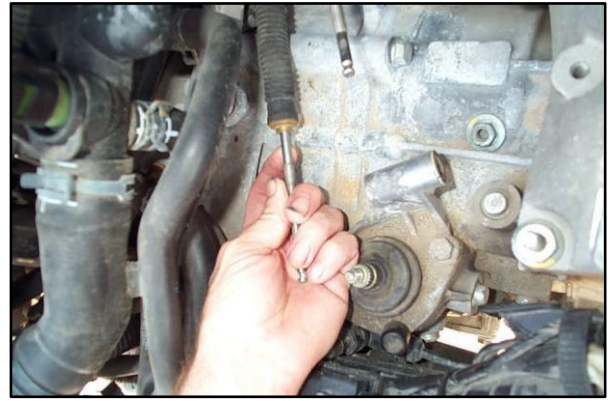
**Figure 54 - Pull Back the Front to Back Cable Rubber Boot (If Present) and Plastic Ring to Expose All Threads of This Cable**



**Figure 55 - Pulling the Plastic Ring toward the Front of the Car**



**Figure 56 - After it has been Broken Loose, Slide It toward the Rear**



**Figure 57 - Expose All of the Threads Smooth Cable**

4. Install the front to back bracket (Figure 58) first. Slide (Figure 59) the front/back lever's aluminum cable end onto the shift cable closest to the engine. Make sure the cable can be inserted into the cable end until the threads disappear (Figure 60) inside the cable end. At this point it is extremely important to note that there is a "keyway" or two joined splines on the selector shaft on the transmission (Figure 61). The correct corresponding keyway to use on the front to back shift lever is a keyway marked (Figure 62) with a permanent magic marker mark. You will not be able to push the front to back shift bracket onto the transmission selector shaft without the joined splines and marked keyway lining up. Once lined up, however, the shift bracket will push pretty easily onto the selector shaft (Figure 63).



**Figure 58 - Front to Back Bracket**



**Figure 59 - Slide the front/back lever's aluminum cable end onto the shift cable closest to the engine**





**Figure 60 - Make Sure the Cable Can Be Inserted Into the Cable End Until the Threads Disappear Inside the Cable End**



**Figure 61 - "Keyway" Or Two Joined Splines on the Selector Shaft on the Transmission**



**Figure 62 - The Correct Corresponding Keyway to Use on the Front to Back Shift Lever Is A Keyway Marked with a Permanent Magic Marker Mark**

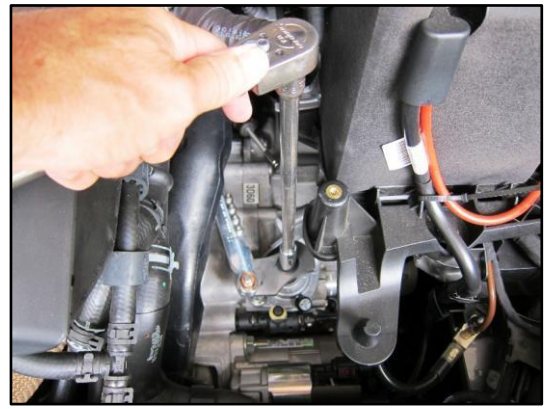


**Figure 63 - Shift Bracket Will Push Pretty Easily Onto the Selector Shaft**

5. Next, thread the supplied new black or green 13mm lock nut (Figure 64) by hand onto the shaft and then tighten it with your ratchet but do not go crazy with it since in a few extreme circumstances customers have gotten overzealous and accidentally snapped the stud off of the selector shaft. You must not reuse the original nut that you removed from the stock shifter! While you are tightening (Figure 65) the locknut, the selector shaft will rotate clockwise before the nut gets tight. After the nut has been tightened, rotate the shift bracket counter-clockwise to the neutral position. In the neutral position the front to back shift bracket can be moved vertically up and down.



**Figure 64 - New Black or Green 13mm Lock Nut**



**Figure 65 - While You Are Tightening the Locknut, the Selector Shaft Will Rotate Clockwise Before the Nut Gets Tight**

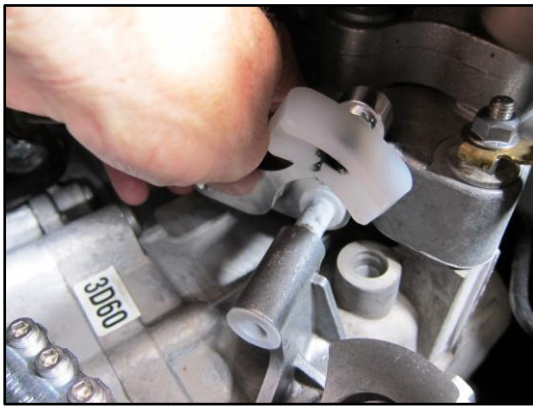
6. For the shifter to function correctly there must be two round white plastic bushings (Figure 66) in the aluminum pivot hole on the transmission. Slide one of these white plastic bushings (Figure 67) onto the silver side to side bracket pivot pin. Install the side to side bracket by sliding (Figure 68) the pivot shaft through the hole on the transmission meant for it. Make sure that the other white plastic bushing is in place on the other side of the tube as you are sliding (Figure 69) the pivot pin through the hole. As you are putting the side to side lever in, engage the slot of the white plastic slider (Figure 70) with the front to back bracket. After the side to side bracket pivot pin is fully engaged (Figure 71) into the pivot hole, replace the small shiny metal clip on the silver bracket pivot shaft (Figure 72). The VW/Audi part number for the shiny clip is N 908 159 03 in case you lose it and you do not have a spare clip holding on your stock plastic cable ends. The VW/Audi part number for the white plastic bushings is 1J0 711 067L.



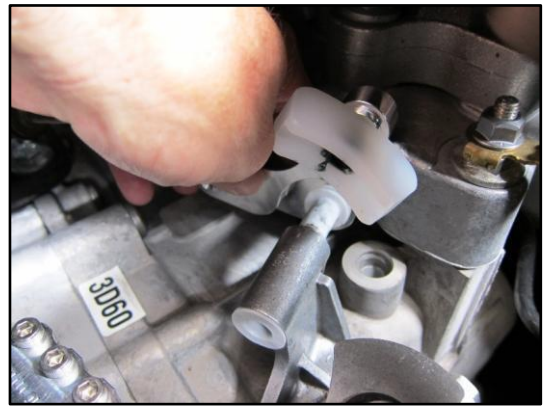
**Figure 66 - Two Round White Plastic Bushings in the Aluminum Pivot Hole on the Transmission**



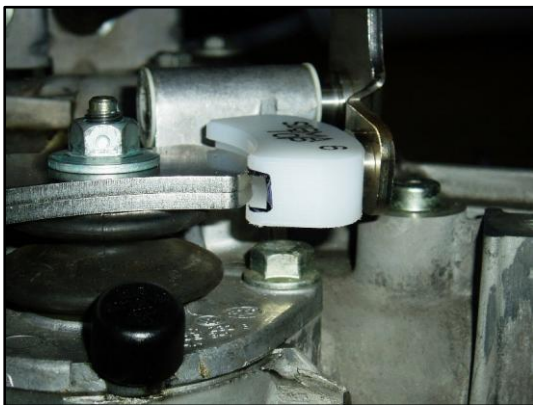
**Figure 67 - Slide One of These White Plastic Bushings onto the Silver Side To Side Bracket Pivot Pin**



**Figure 68 - Install the Side To Side Bracket by Sliding the Pivot Shaft through the Hole on the Transmission Meant For It**



**Figure 69 - Make Sure That The Other White Plastic Bushing Is In Place On The Other Side Of The Tube As You Are Sliding The Pivot Pin Through The Hole.**



**Figure 70 - As You Are Putting the Side To Side Lever In, Engage the Slot of the White Plastic Slider with the Front to Back Bracket**



**Figure 71 - The Side To Side Bracket Pivot Pin Is Fully Engaged Into the Pivot Hole**



**Figure 72 - Replace the Small Shiny Metal Clip on the Silver Bracket Pivot Shaft**

7. Install the side to side cable end (Figure 73): Make sure one more time that the side to side cable end slides freely (Figure 74) on the remaining side to side shift cable. If it slides freely, leave it on the cable but if it does not please refer to Step #1 in this section. Once the cable end is on the cable, thread in by hand the 8mm

Allen bolt (Figure 75) supplied in the parts kit and make sure the cable end slot faces upwards like the preceding picture shows. Next, lift up on the white plastic slider and place a 13mm short socket (Figure 76) on the bolt head immediately below the white plastic slider. This socket will act as a stop when you tighten the Allen screw. Once the socket is in place, tighten the Allen screw with a 6mm Allen socket (Figure 77) or L-shaped wrench. Please note that there is very little load on this screw. With that in mind, **please be careful not to over tighten this screw** as it is threaded into aluminum. The female threads on the side to side bracket will have removable blue Locktite in the threads to keep the Allen screw tight. Finally, make sure to remove the 13mm socket after the Allen screw is tight!



Figure 73 – Install the Side To Side Cable End



Figure 74 - Make Sure One More Time That the Side To Side Cable End Slides Freely



Figure 75 – Once the Cable End Is On the Cable, Thread in By Hand the 8mm Allen Bolt Supplied In the Parts Kit

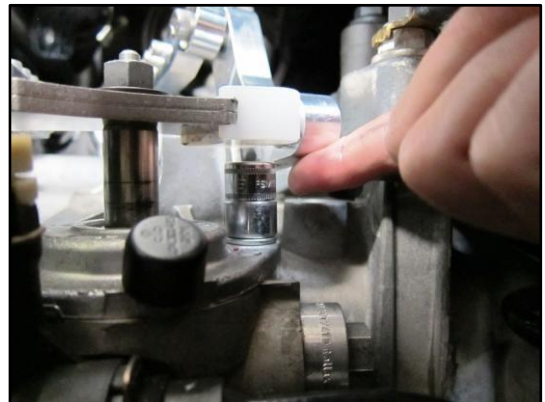


Figure 76 – Place a 13mm Short Socket on the Bolt Head Immediately Below the White Plastic Slider



Figure 77 – Once the Socket Is In Place, Tighten the Allen Screw with a 6mm Allen Socket

Congratulations, your shifter parts are now installed (Figure 78)! Let's move on to adjustment...



Figure 78 - Shifter Parts Are Now Installed

## Adjustment

**This is the most important part. This procedure must be followed exactly! Please call (210) 852-4819 if you have problems here. If we do not answer, please leave voice mail with a phone number! Make note that all shifters will feel better when given a week or so to break in as there are sliding surfaces that will be polished with several days' worth of driving. The adjustment procedure is pretty straightforward so problems should be few, if any. PLEASE do not seek adjustment advice from anyone other than JIM ROYSTON which includes posting anything to any online forums! Please consult me first. That said, of course when you reduce the available leverage by installing ANY short shift kit there will be a degree of higher effort and this will be perceived as notchiness by some. Just give it a few days to a week for the sliding parts to break in before you call us.**

Take a look at our simple YouTube video that shows how a stock shifter is adjusted. The adjustment for the Sigma 6 shifter is the same with the exception that you will clamp the shift cables with aluminum cable ends rather than the plastic stock cable ends. The overall concept is the same.

Link to the YouTube video: <http://www.youtube.com/watch?v=tp9ggefOjAE>

1. **Lock the transmission into its "Home position" (see the last 45 seconds of our YouTube video for a good demonstration of 6 speed locking pin/lever).** In the engine bay, make sure that the *transmission* is in **neutral** (in neutral the front/back shift bracket is free to move up and down). Push down on the front to back lever by 6/10ths of an inch (almost 5/8) and then push in the black locking plunger/pin on the transmission shift tower (#2 in Figure 79). The locking pin will push into a hole in the transmission selector shaft inside the transmission and will lock the transmission into a "Home position" only used for adjustment purposes. The locking plunger is a black 1/4 inch diameter pin that sticks out toward the driver side of the car (LHD) (Figure 80). It is very important to note that the 2004 and later cars have a different locking pin than the earlier cars. The later locking lever is a black plastic L shaped lever (pictured in Figure 81 with yellow paint) just above the electrical plug (Figure 82) for the reverse switch. The locking lever pushes in and rotates upward (clockwise) to lock the mechanism in place. Since this new style of locking lever is plastic instead of metal like the earlier one it can be damaged if it is left in the locked position and the shifter is actuated by the driver.

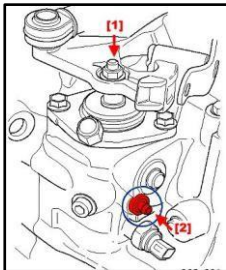


Figure 79 - Black Locking Plunger/Pin on the Transmission Shift Tower

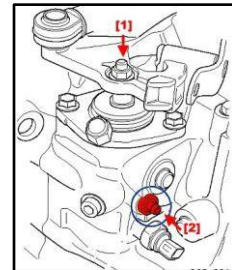


Figure 80 - The Locking Plunger Is a Black 1/4 Inch Diameter Pin That Sticks Out Toward the Driver Side of the Car

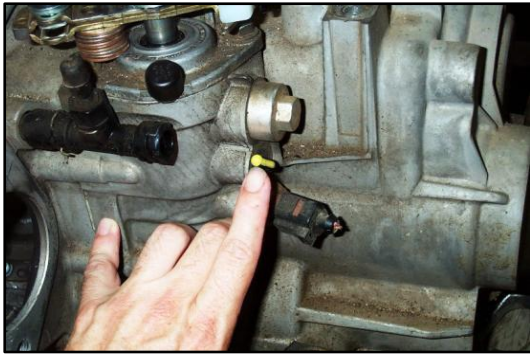


Figure 81 - Black Plastic L Shaped Lever



Figure 82 - Black Plastic L Shaped Lever Just Above the Electrical Plug

- Expose and lock down the shift linkage inside the car. On all MK4 cars** except the GTI 337, 20<sup>th</sup>, R32 and Audi TT, while working inside of the car, pull the elastic band (Figure 83) at the rear of the base of the shift boot toward the rear of the car and then lift up the rear of the shift boot. Do not to remove the shift boot completely as it requires you to remove and reinstall the plastic rectangular shift boot retaining ring if you do. On GTI 337, 20th, and R32, squeeze the sides of the chrome trim around the shift boot to unclip it from the center console. On the Audi TT, remove the eight Torx T20 screws in the aluminum ring surrounding the shift boot. Lift up the shift boot but do not remove it. **On MK5 cars from 2006 on** (MK6, too), reach into the shift boot like this (Figure 84) and grasp the plastic structure holding the shift boot. Then simply lift the structure upward and it will pop out of the center console to expose the shifter base. There might also be a sound dampener (Figure 85) that needs to be pulled up as well to expose the lockdown holes (Figure 86).



Figure 83 - Pull the Elastic Band



Figure 84 - Reach into the Shift Boot



Figure 85 - Sound Dampener



Figure 86 - Lockdown Holes

3. **Lock the mechanism inside the car into its home position: (see from 0:55 seconds to minute 2:00 of our YouTube video for a video demonstration of locking the mechanism inside the car).** In this step you insert the 5mm pin tool supplied with the kit into the hole at the lower left of the shift lever (Figure 87) and push it through and into the corresponding hole in the shifter base until it bottoms out. (2010 MK6 Golf picture (Figure 88) This will give the *appearance* that the shifter is in **second gear** which is **exactly correct**. Also, the shift lever inside the car WILL NOT MOVE if you have successfully put the 5mm pin down through both holes. If you do not have the 5mm pin tool we provide with our kits, you can make your own tool from a 5mm drill bit or 4 inch long, uncoated 20d Bright Common nail with a 5 mm or .195 of an inch shank diameter and a 30 degree bend 2.5 inches from the tip of the nail to clear the shift knob. (If you have the correct .195 diameter nail, a vice can be used to make the required bend.)



Figure 87 - Lower Left of the Shift Lever



Figure 88 - 2010 MK6 Golf Picture

4. Once you have locked the transmission into its home position (Step 1) and also installed the 5mm pin tool through **both** holes inside the car (Step 3), you are ready to tighten **just one** Allen screw that clamps the front to back aluminum cable end to the shift cable. This **IS** the adjustment for the short shift kit! **Where** you clamp the cable has everything to do with the proper adjustment of the shifter. If you did not follow all of the preceding steps exactly then do not tighten



any Allen screws until you do. If you are confident that you followed all of the steps before this one then you can tighten a single Allen screw (Figure 89) on the **front to back cable end only**. If you used a 6mm screw or stubby screwdriver to open the gap in the front/back cable end you should remove it now and replace the Allen screw and nylock nut.



**Figure 89 - Tighten a Single Allen Screw on the Front to Back Cable End Only**

5. **This is one of the most critical steps, adjusting the side to side shift cable:** Rotate the side to side cable end to make it perpendicular to the side to side shift bracket so that its top slot faces straight up. Next, remove the slack from the side to side cable by gently pulling the shift cable out of the cable end (Figure 90). The shift cable will come out of the cable end by an additional 2 or 3 threads. (If you used a 6mm screw or stubby screwdriver to open the gap in the side to side cable end you should remove it immediately after pulling the shift cable out of the cable end.) Then, tighten only the 2nd Allen screw (Figure 91) on the cable end with a 4mm Allen wrench and a box end 3/8 wrench to hold the lock nut. You will finish tightening the other three Allen screws only after you test the adjustment in Step 8.



**Figure 90 - Remove the Slack from the Side to Side Cable by Gently Pulling the Shift Cable Out of the Cable End**



**Figure 91 - Tighten Only the 2nd Allen Screw on the Cable End with a 4mm Allen Wrench and a Box End 3/8 Wrench to Hold the Lock Nut**

6. **Unlock the transmission from its home position.** While pushing down slightly on the front/back bracket, pull out the L-shaped or nail-headed locking pin to the right until it hits its stop. It will come out 1/4 inch toward the left side (driver side in U.S.) of the car. Sometimes you have to jiggle the front/back bracket up and down for the pin to come out. It is very important that you pull this pin out since your shifter will not work with the pin pushed in! *On the 2004 and later cars with the black plastic L-shaped (Figure 92) locking pin, you will permanently damage the pin if you try to shift the mechanism with the pin pushed in! Please do not forget to release the pin after adjustment. The shift mechanism will still function perfectly if you damage the plastic locking pin.* Call us during business hours if you break your locking lever.



Figure 92 – Black Plastic L-Shaped Locking Pin

7. **Unlock the mechanism inside the car from its home position.** Go back inside the car and remove the special 5mm pin tool from the shifter mechanism. Save the 5mm adjustment pin with your stock shifter parts.
8. Check the shifter action by **gently** cycling through the gears (remember, you only have tightened one of the four Allen screws clamping each cable). Make sure that first and second gear engage smoothly without too much effort. Also, make sure that reverse gear is easy to engage. If first and second gear are hard to engage, redo the adjustment starting at Step 1 and then recheck the shifter.
9. If all gears are easy to engage, tighten the remaining Allen screws. As a general guide you should tighten the Allen screws until the slot in the side of the aluminum cable ends will just allow either a credit card or two playing cards (Figure 93) to fit in the gap. Once all of the eight Allen screws are tight, the shifter has been properly installed and adjusted. It should never need to be readjusted unless it was done incorrectly. If you happened to break an Allen screw, a replacement screw is a 10-32 socket head machine screw that is at least 3/4 inch long. These screws will be available in most hardware stores.



**Figure 93 - Two Playing Cards Fit in the Gap**

10. Reinstall the shift boot onto the shift boot frame ring inside the car. On the GTI 337, 20<sup>th</sup>, R32, and MK5 and MK6 slide the front of the chrome shift boot frame ring into the center console and then snap the rear of the frame (Figure 94) downwards into the center console. The New Beetle Turbo S shift boot just pushes straight down into the aperture. On the Audi TT, reinstall the shift boot onto the shift boot frame ring inside the car. Reorient the folds in the shift boot and align the shift boot with the locating lug in the boot and center console. Replace the 8 T20 Torx screws.



**Figure 94 - Snap the Rear of the Frame Downwards Into the Center Console**

11. Reinstall the air box. (See "Accessing the shift mechanism" section at top of manual). Reattach the flexible duct to the mass airflow sensor with either the screw clamp (1.8T) or spring-type hose clamp (all other engines). Plug the electrical connector for the mass airflow sensor back in until it clicks. Reattach the flexible air injection hose on gas MK4 engines and water drain hose (Figure 95) (if present) on later MK5 and MK6 engines. A positive hose connection often results in one or two little clicks.



Figure 95 - Water Drain Hose

12. Start the engine and go for a ride. You are finished with the install.
13. Enjoy and tell your friends about how much you love your dieselgeek.com Sigma 6 Short Shifter!

**If you cannot get 1<sup>st</sup> or 2<sup>nd</sup> gear or Reverse:**

**Please loosen the four Allen screws for the side to side bracket cable end and pull the shift cable out by 2-3 threads and recheck.**

**If you ever need to remove the transmission for a clutch job:**

If you leave the aluminum cable ends attached to the shift cables you will not need to readjust the shifter after the tranny is put back in! On the front to back shift bracket, remove only the 13mm nut holding the assembly to the transmission. On the side to side bracket, remove the Allen screw holding the shift cable end to the side to side bracket. Zip tie the shift cable bundle up and out of the way on the firewall.

**If you ever need to remove a cable end from a cable and it does not want to move**

When removing a cable end from the shift cable you must open up the gap in the aluminum cable end by loosening all four Allen screws and fully removing the first screw from the end and threading in a 6mm screw and then slip in a thin washer into the gap for the 6mm screw to push against to open up the gap like this (Figure 96). Please note that shifters sold before July, 2010 will not have the 6mm threaded holes in the cable ends but you can spread the gap open like this (Figure 97) with stubby flat head screwdriver pressed into the slit. With the gap opened up you should be able to slide the cable end freely off of the shift cable. If the cable end still does not want to slide off you can clamp a Vice-Grip (Figure 98) next to a fully loosened cable end and pry it off with a flat blade screwdriver.

OR: Check out this video: [http://www.youtube.com/watch?v=G\\_Dh7LQ\\_J7U&feature=plcp](http://www.youtube.com/watch?v=G_Dh7LQ_J7U&feature=plcp)



**Figure 96 - Open up the Gap**



**Figure 97 - Spread the Gap Open**



**Figure 98 - If The Cable End Still Does Not Want To Slide Off You Can Clamp A Vice-Grip Next To A Fully Loosened Cable End And Pry It Off With A Flat Blade Screwdriver**