VW 6-Speed Adjustable Front-to-Back Short Shift Kit Installation Instructions - ES4351/ES2207815

Skill Level
1 - Easy
Basic Skills Recommended

SUPERIOR PERFORMANCE
AN ECS TUNING
DIRECT REPLACEMENT
PRODUCT

INTRODUCTION

The Project:

If you're looking to shorten your front-to-back shift throw length then look no further, our new ECS 6-speed short shift kit is the solution you've been after. It's designed with four different fixed throw settings, and once it's set that's it - there's no slotted adjustment which can loosen up or slip around over time. The design and construction reflect quality all around, and no details have been overlooked. If you're still left looking for more then be sure and check out Page 3 for all of the different shifter upgrades we have to offer.

Installation is fairly easy, you won't even need to lift the wheels off of the ground. Be sure to read through these instructions completely before you begin. This install can be done in an afternoon, plan according to your experience and comfort level. Thank you for looking to ECS Tuning for all of your repair and performance needs, we appreciate your business!

TABLE OF CONTENTS

AVAILABLE SHIFTER UPGRADES

MK4 6-Speeds:

Front-to-Back Short Shift Kit
ES#4351

MK5/6/7 6-Speeds:

Front-to-Back Short Shift Kit
ES#2207815

Build-Your-Own 6-Speed Manual Transmission Upgrade Kit: ES#3420447

ECS Front-to-Back Shift Lever

ECS Side-to-Side Shift Lever

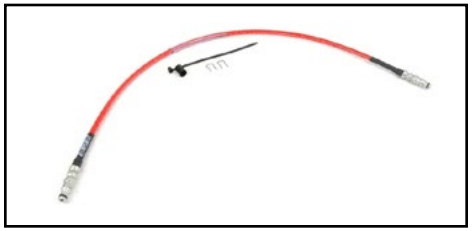
ECS Solid Shifter Cable Bracket Bushing Kit

- OR -

ECS Solid Shifter Cable End Link Bushings

ECS Billet Shifter Cable End Links

ECS 6-Speed Clutch Bleeder Block

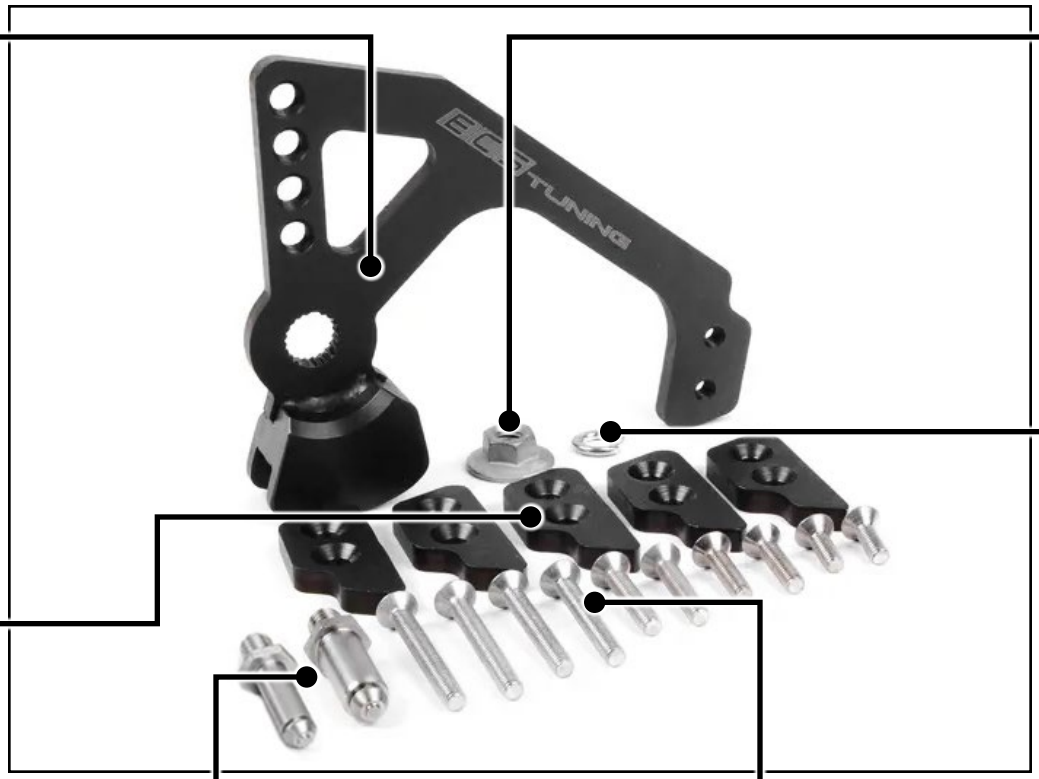


ECS Exact-Fit Clutch Line

Transmission Service Kit w/ Magnetic Drain & Fill Plugs

FRONT-TO-BACK SHORT SHIFT KIT CONTENTS

QTY 1: Front-to-Back Adjustable Shift Lever



QTY 1: 13mm Flange Nut
(secures shift lever to shaft)

QTY 1: M8 Lock Washer
(installed under shifter pin)

QTY 5: Counter Weights
(used to adjust how heavy the shifter throw feels)

QTY 1: 10mm Shifter Pin
QTY 1: 8.5mm Shifter Pin*

QTY 10: Tapered M6 Screws
(used to secure the counter weights)

*only included with MK5, MK6, & MK7 kits (ES#2207815)

REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

Standard Automotive Tools

- Protecta-Sockets (for lug nuts) ES#2221243
- **⅜" Drive Ratchet** ES#2765902
- **⅜" Drive Torque Wrench** ES#2221245
- **⅜" Drive Deep and Shallow Sockets** ES#2763772
- **⅜" Drive Extensions** ES#2804822
- Hydraulic Floor Jack ES#2834951
- Torx Drivers and Sockets ES#11417/8
- ½" Drive Deep and Shallow Sockets ES#2839106
- ½" Drive Ratchet
- ½" Drive Extensions
- ½" Drive Torque Wrench ES#2221244
- ½" Drive Breaker Bar ES#2776653
- Bench Mounted Vise
- Crows Foot Wrenches
- Hook and Pick Tool Set ES#2778980

Required For This Install

- ¼" Drive Ratchet ES#2823235
- ¼" Drive Deep and Shallow Sockets ES#2823235
- ¼" Drive Extensions ES#2823235
- Plier and Cutter Set ES#2804496
- **Flat and Phillips Screwdrivers** ES#2225921
- Jack Stands ES#2763355
- Ball Pein Hammers
- Pry Bar Set ES#1899378
- Electric/Cordless Drill
- Wire Strippers/Crimpers
- Drill Bits
- Punch and Chisel Set
- **Hex Bit (Allen) Wrenches and Sockets** ES#11420
- Thread Repair Tools ES#1306824
- **Open/Boxed End Wrench Set** ES#2765907

Available On Our Website

Specialty Tools

- **Schwaben Shifter Alignment Pin** ES#3570695
- **Schwaben Trim Removal Tool Set** ES#517779

SHOP SUPPLIES AND MATERIALS

Standard Shop Supply Recommendations: We recommend that you have a standard inventory of automotive shop supplies before beginning this or any automotive repair procedure. The following list outlines the basic shop supplies that we like to keep on hand. Shop supplies with a hyperlink are available on our website.

- Hand Cleaner/Degreaser - Click Here
- Pig Mats - for protecting your garage floor and work area from spills and stains - Click Here
- Spray detailer - for rapid cleaning of anything that comes into contact with your paint such as brake fluid - Click Here
- Micro Fiber Towels - for cleaning the paint on your car - Click Here
- Latex Gloves - for the extra oily and dirty jobs - Click Here
- Medium and High Strength Loctite Thread lock compound - to prevent bolts from backing out - Click Here
- Anti-Seize Compound - to prevent seizing, galling, and corrosion of fasteners - Click Here
- Aerosol Brake/Parts Cleaner - for cleaning and degreasing parts
- Shop Rags - used for wiping hands, tools, and parts
- Penetrating oil - for helping to free rusted or stuck bolts and nuts
- Mechanics wire - for securing components out of the way
- Silicone spray lube - for rubber components such as exhaust hangers
- Paint Marker - for marking installation positions or bolts during a torquing sequence
- Plastic Wire Ties/Zip Ties - for routing and securing wiring harnesses or vacuum hoses
- Electrical tape - for wrapping wiring harnesses or temporary securing of small components

INSTALLATION NOTES

- **RH** refers to the ***passenger side*** of the vehicle.
- **LH** refers to the ***driver side*** of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.

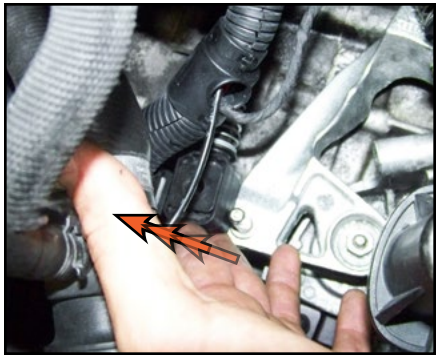
NEVER get underneath a vehicle that is supported only by a jack, and ALWAYS make sure that the vehicle is securely supported on jack stands.

PROJECT OVERVIEW

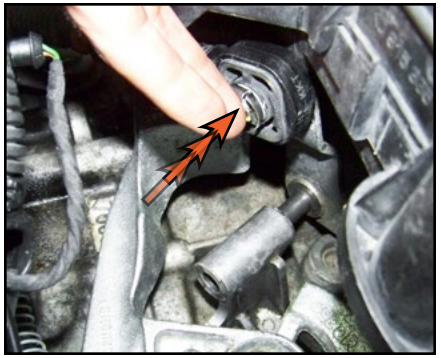
Here's a quick overview of the main installation steps. Most of them are required just to access the shift lever. We're betting you're familiar with removing your intake and skid plate, so we're not going to cover these, but instead begin our detailed step by step instructions with battery removal. If you need a refresher on intake removal, we have detailed instructions with linked to some of our other ECS Tuning products which are listed below - feel free to check them out!

FSI Engines: ES#2981602 **MK6 TSI Engine:** ES#2979256 **MK7 Gen3 Engine:** ES#3111609

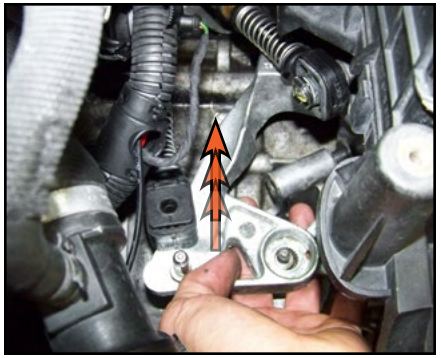
1) Remove the air box/intake.



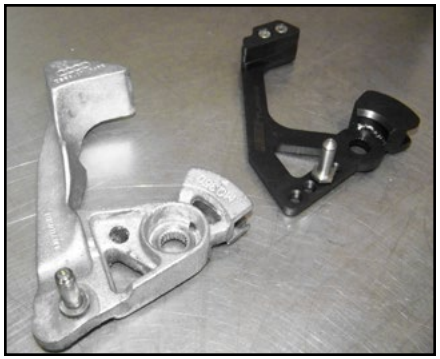
2) Remove the front-to-back shift cable from the shift lever.



3) Slide the relay lever partially out of the pivot point.



4) Remove the stock shift lever.



5) Install the shifter pin and counter weights to fine tune the "feel" of your shifter.

6) Install the new shift lever, reinstall the relay lever and shift cables.

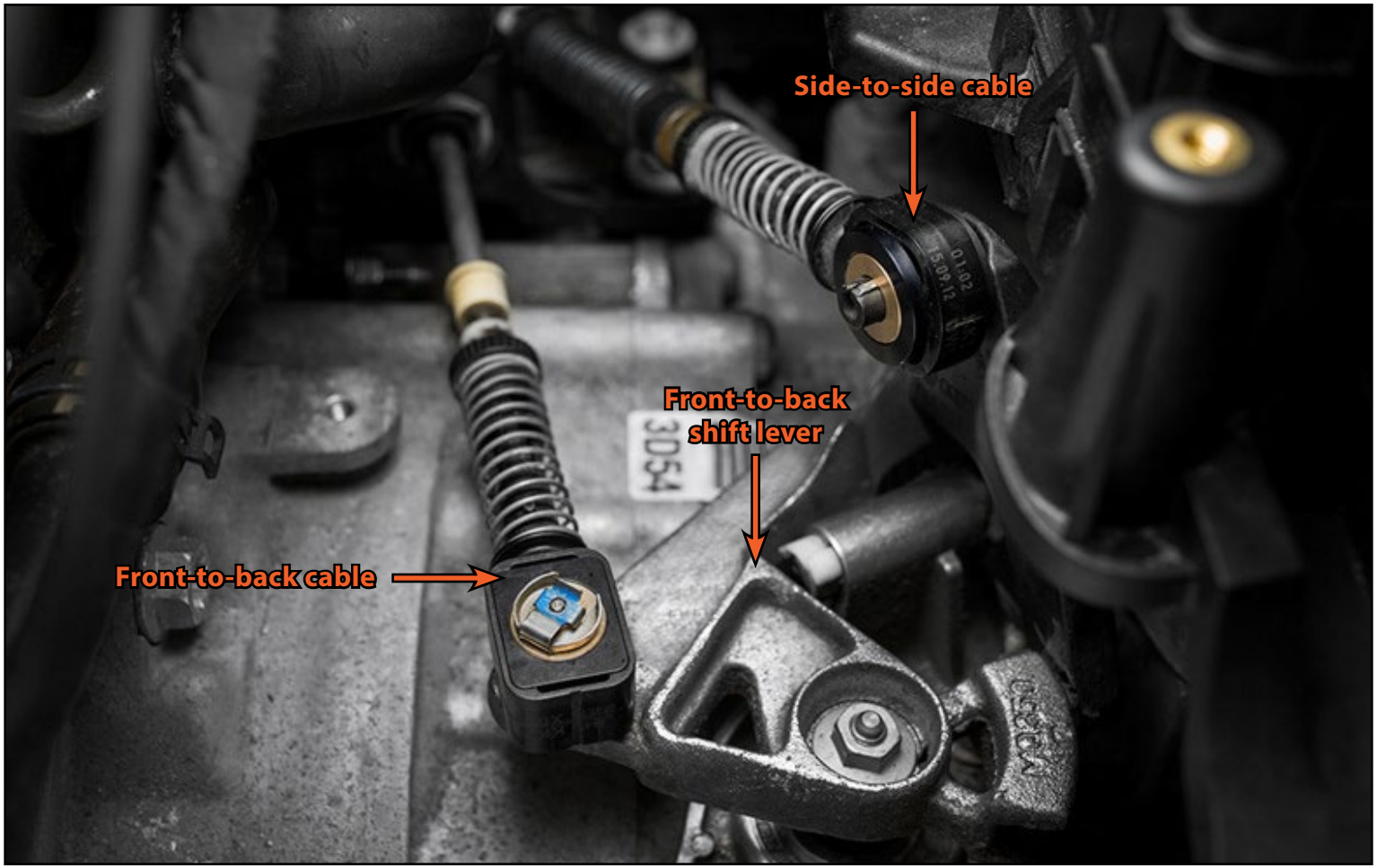
7) Adjust the shift cables and reassemble the vehicle.

8) Hit the road!

Now let's get to it!

6-SPEED SHIFTER CABLE IDENTIFICATION

All Volkswagen 6-speed transmission shifter cables will have this orientation, regardless of the end style of the shifter cable. The front-to-back cable is the lower of the two cables, mounted onto the vertical pin on the front-to-back shift lever. The side-to-side cable is the higher of the two cables, mounted onto the horizontal pin of the relay lever.

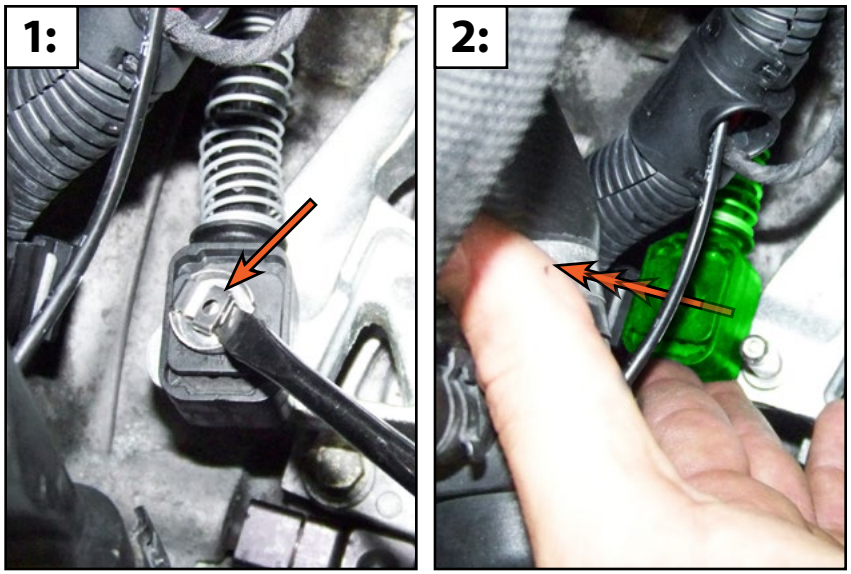


REMOVING THE STOCK SHIFT LEVER

Step 1: Small Flat Blade Screwdriver

Disconnect the cable end from the original front-to-back shift lever. To do this you will need to:

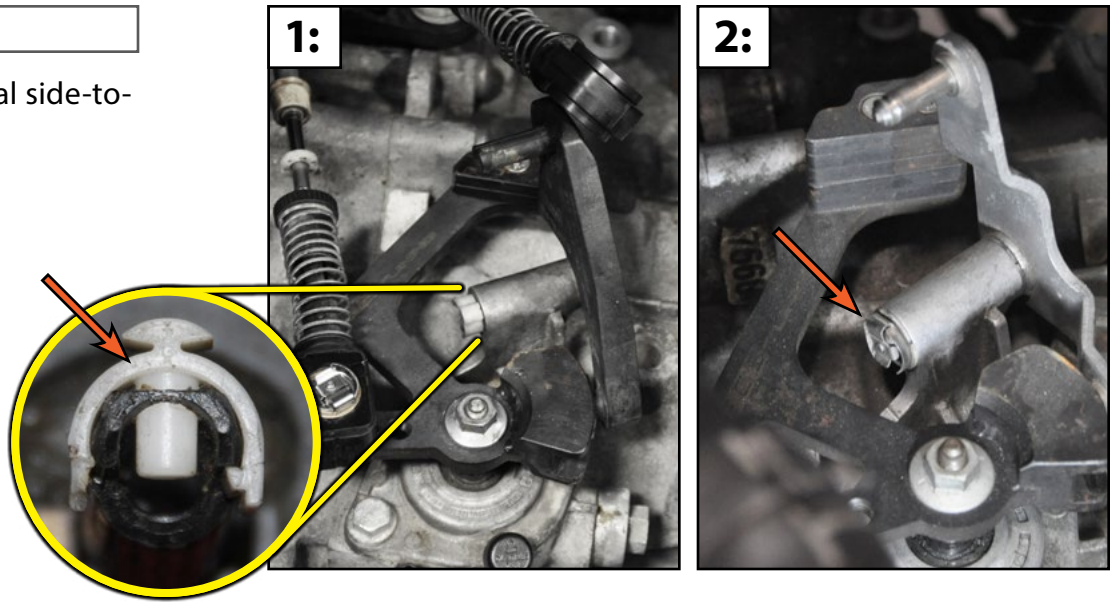
1. Remove the metal retaining clip on the end of the pin (shown in the LH photo).
2. Then slide the cable end off of the shifter pin and swing the cable out of the way (highlighted in **GREEN** in the RH photo).



Step 2: Small Flat Blade Screwdriver

Remove the retaining clip off of the pivot pin on the original side-to-side relay lever. There are two options here:

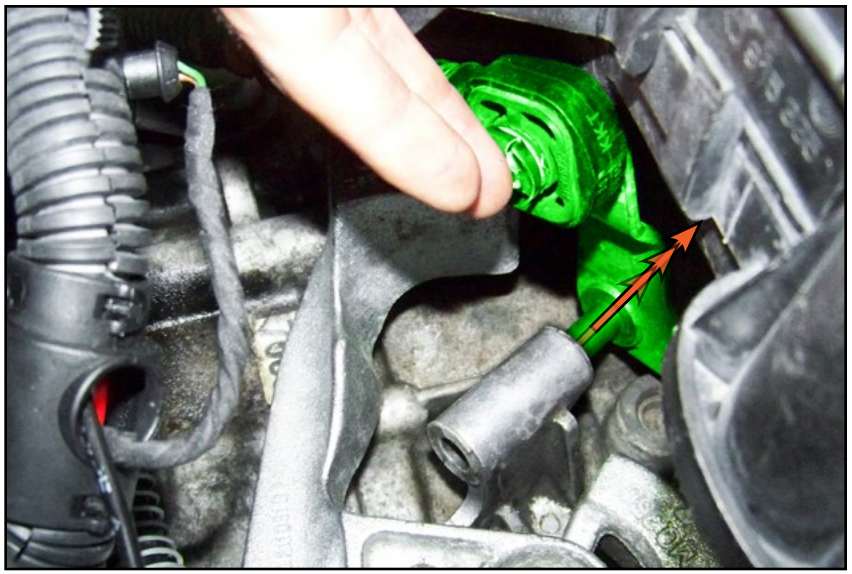
1. An original plastic shift lever with a plastic clip. This can usually be removed by hand but you may use a screwdriver if necessary to help pry it off.
2. An original metal shift lever with a metal clip. This can usually be removed by hand but a screwdriver or pick tool can help if necessary.



REMOVING THE STOCK SHIFT LEVER

Step 3:

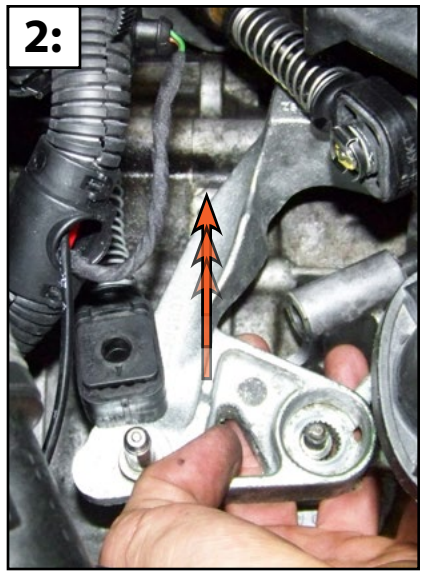
Slide the side-to-side relay lever (highlighted in **GREEN**) partially out of the pivot point.



Step 4: 13mm Socket, Ratchet & Extension

Remove the front-to-back shift lever from the selector shaft. To do this you will need to:

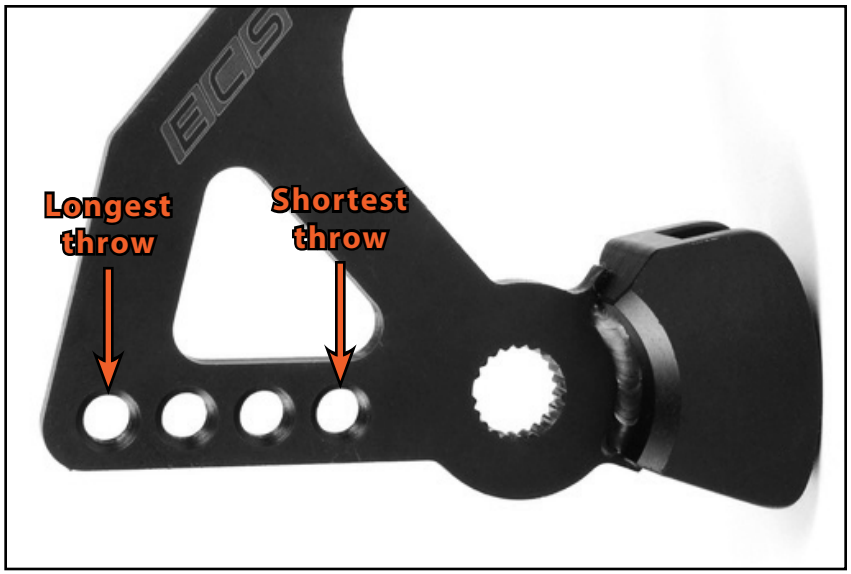
1. Remove the flange nut which secures the shift lever into place (shown in the LH photo).
2. Pull the shift lever off of the selector shaft.
   - Rotate the shift lever so that you can pull upward on it to disengage it from the splines on the selector shaft.
   - After a couple quick pulls (like a slide hammer) it should come free.
   - If it is especially stuck, use a penetrant and let it sit for a while to break up any corrosion that may have formed.



INSTALLING THE NEW SHORT SHIFT KIT

Step 1:

The ECS Tuning short shifter is adjustable to suit your tastes and driving style. The four holes for the shifter pin go from left (longest throw) to right (shortest throw).



Step 2: 13mm Wrench

Once you decide what shift throw and weight you want it's time to assemble the new short shifter. Place the lock washer on the end of the shifter pin, then thread it into the throw location you have chosen and tighten it until it is snug.

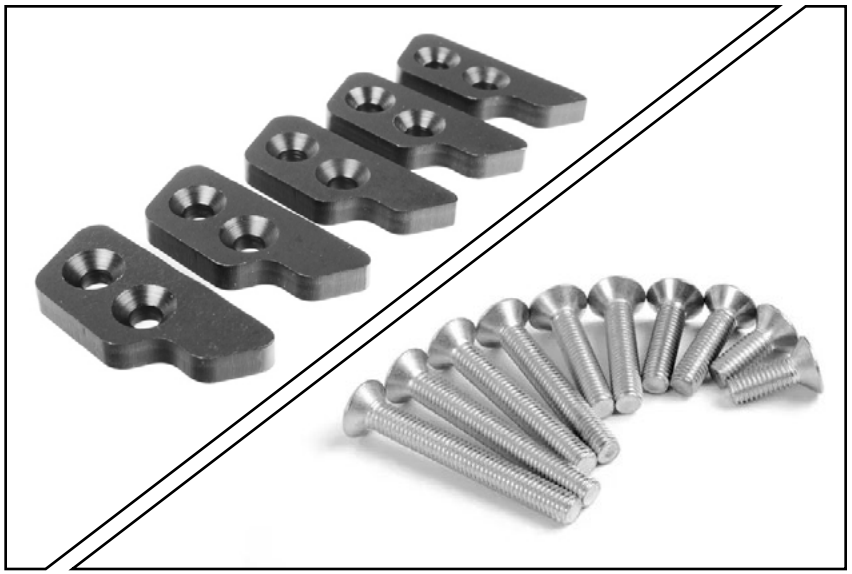
NOTE

You should be able to tighten the shifter pin with a wrench while holding the shift lever in your other hand. ***It is not necessary*** to clamp the shift lever in a vise for this step, doing so may damage the finish.

INSTALLING THE NEW SHORT SHIFT KIT

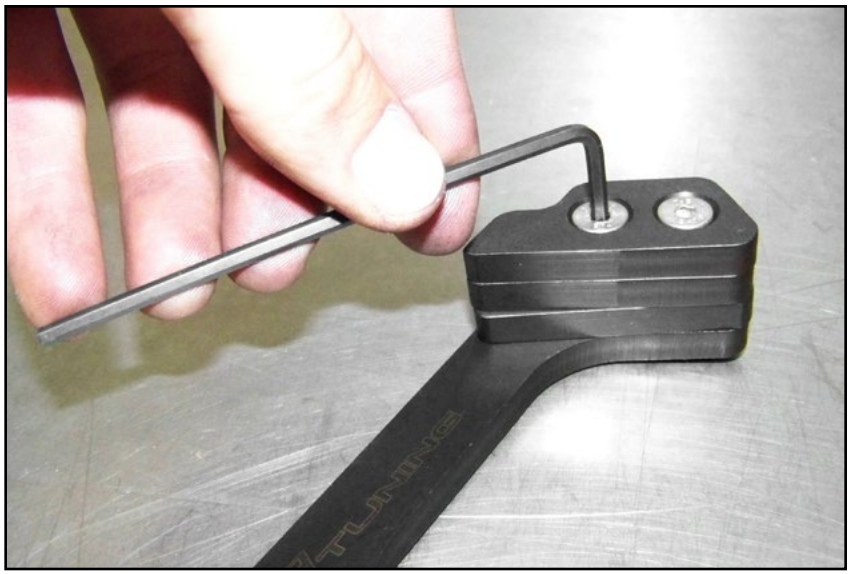
Step 3:

The short shifter kit is packaged with five counter weights and five pairs of bolts. You can use as many of these counter weights as you want to fine-tune the weight and feel of your shifter.



Step 4: 3mm Hex (Allen)

Select the correct length bolts to fasten the number of weights you have selected to the shift lever. Thread the screws in by hand, then tighten them until they make contact + ⅛ turn.



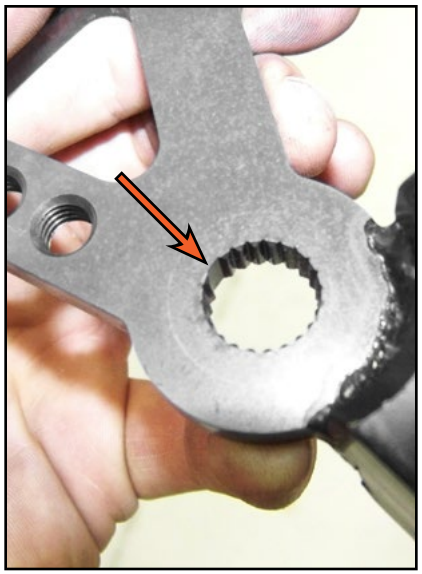
NOTE

Ensure that the bolts do not extend beyond the bottom of the weight bracket.

INSTALLING THE NEW SHORT SHIFT KIT

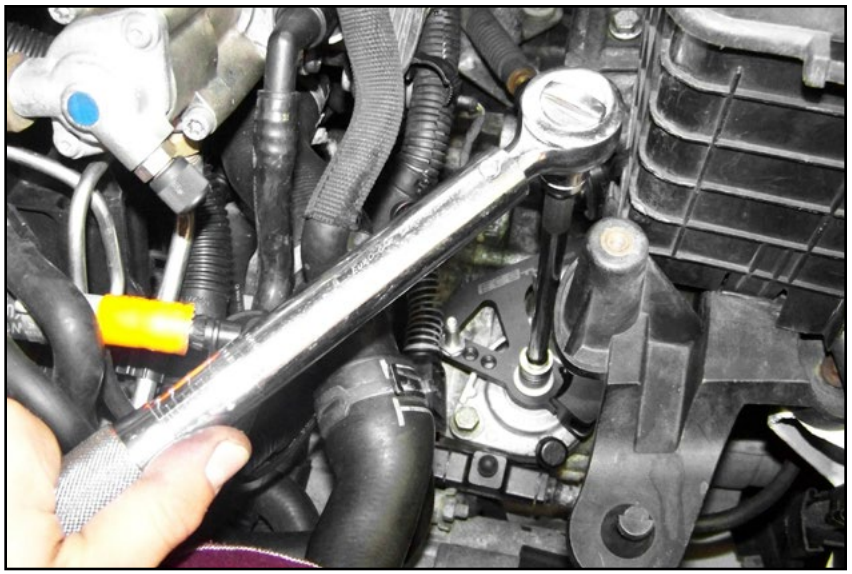
Step 5:

Observe the wide space in the splines of both the short shifter assembly as well as the selector shaft on the transmission. These wide splines **MUST** be aligned with one another when installing the shifter into position.



Step 6: 13mm Socket, Torque Wrench & Extension

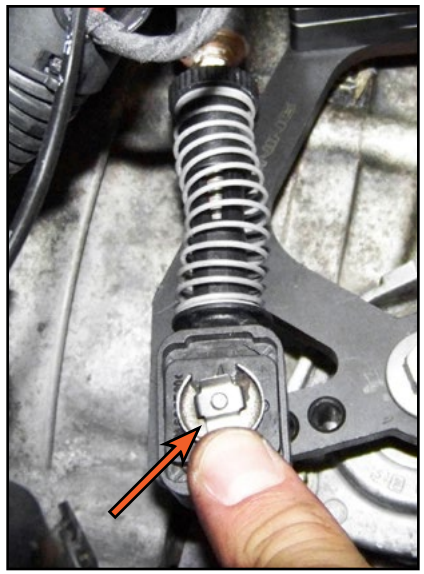
Install the short shifter assembly onto the selector shaft and torque the nut to 20 Nm (15 Ft-lbs).



INSTALLING THE NEW SHORT SHIFT KIT

Step 7:

Reinstall the front-to-back shifter cable and clip (LH photo). Slide the relay lever back into place and install the retaining clip (RH photo).



Step 8:

It is **VERY** important that you now perform a shifter cable adjustment. Please proceed to the next page for instructions on this procedure.

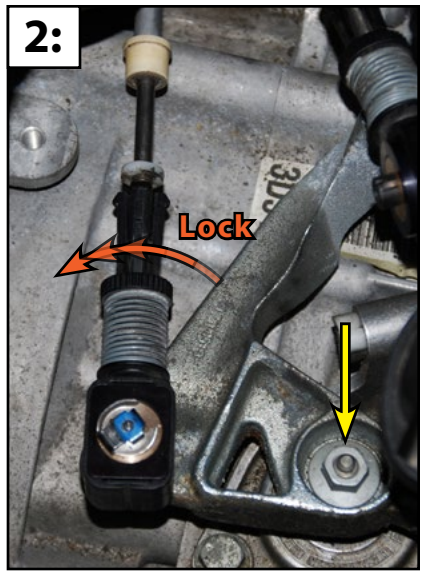
SHIFTER CABLE ADJUSTMENT

Step 1:

Make sure the transmission is in neutral.

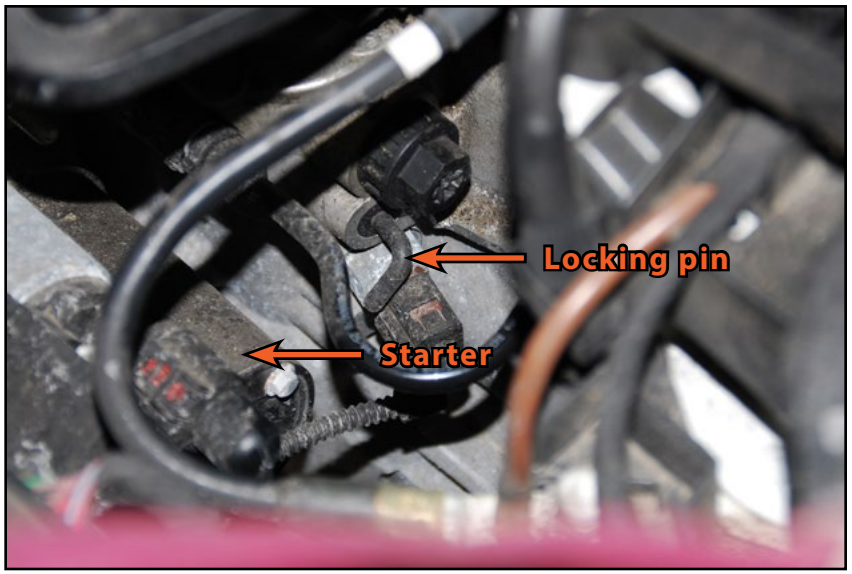
Release ***both*** shifter cable ends by pulling the lock sleeve (highlighted in **GREEN** in photo #1) in ***each*** cable end forward until the spring is completely compressed. Then simply turn the lock sleeve to the left about ⅛ turn until it locks in place (photo #2). It is properly locked when you release your grip and the spring remains compressed - you may have to try it a few times to get it to hold. (You'll notice that the cable end will slide back and forth easily on the cable, and can even be removed when it is released).

Also note the top of the selector shaft where it enters the transmission (**YELLOW** arrow). This is relevant in step 3 on the next page.



Step 2:

Locate the selector shaft locking pin in the transmission housing. It is located on the LH (Driver's) side, just behind the starter.



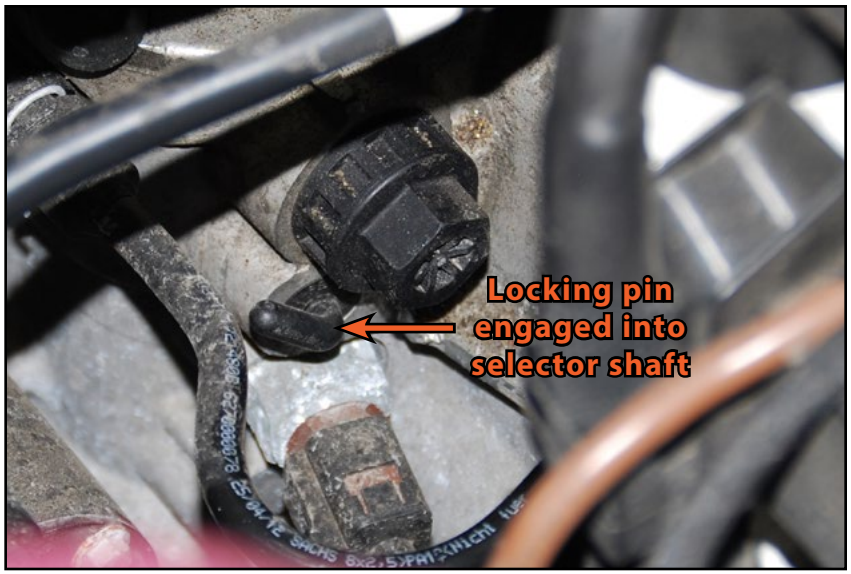
NOTE

The locking pin may appear different for different years, but it is located in the same position.

SHIFTER CABLE ADJUSTMENT

Step 3:

The transmission should be in neutral and you should be able to move the selector shaft up and down with ease. Push down on the selector shaft until it is approximately in the middle of its travel. Push in on the locking pin and gently move the selector shaft up and down until the pin engages the alignment hole in the selector shaft and pushes into the transmission. Turn the locking pin upward slightly and release the pressure on the selector shaft. When properly engaged, the pin will stay in place and you will not be able to move the selector shaft.



Step 4: Trim Removal Tool

Working inside the car, gently pry up the shifter boot, then lift it over the shift knob. Lift up the insulator underneath the shift boot.

SHIFTER CABLE ADJUSTMENT

Step 5:

Looking along the bottom of the shift rod you will see the two holes where a tool will be inserted to lock the shifter into place (arrows). Any round tool such as a drill bit or punch can be used, but the fit must be very snug or the shifter adjustment will not be successful.

Step 6: Schwaben Shifter Alignment Pin

Insert the Schwaben alignment pin or a similar tool through the alignment hole in the shifter stick and into the alignment hole in the base of the shifter.

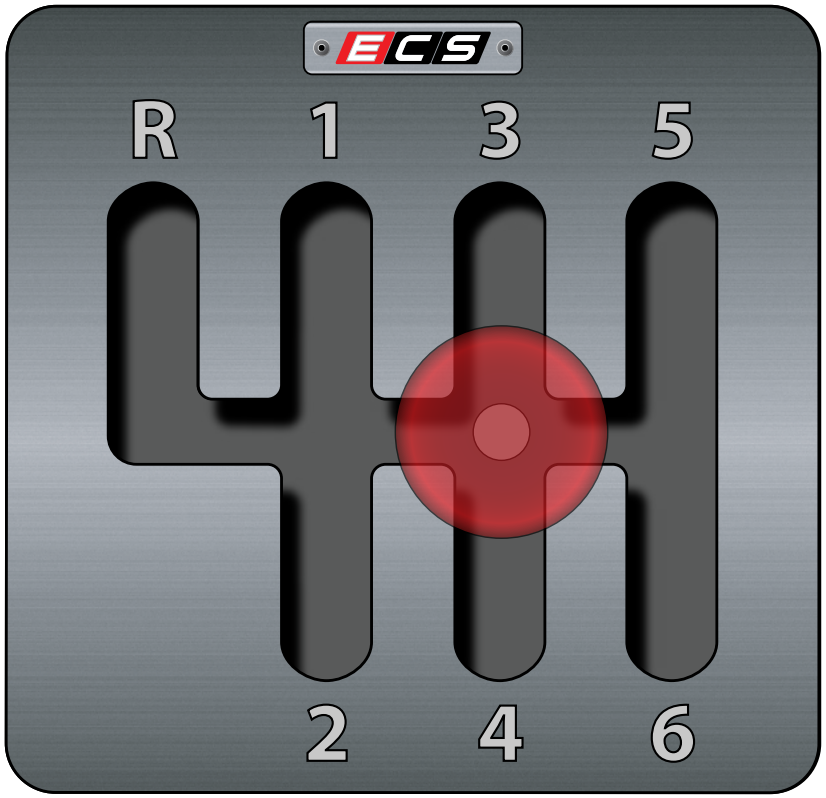
You may notice that the shift lever will move around a bit even with the locking pin installed. While this is a normal condition, it does make the adjustment procedure a little more difficult. **You want to make absolutely sure that the shifter is centered in its locked position.**

From this point on it is very important that the shift lever inside the vehicle is not disturbed. This also means that you need to avoid tugging on the shift cables when working under the hood.

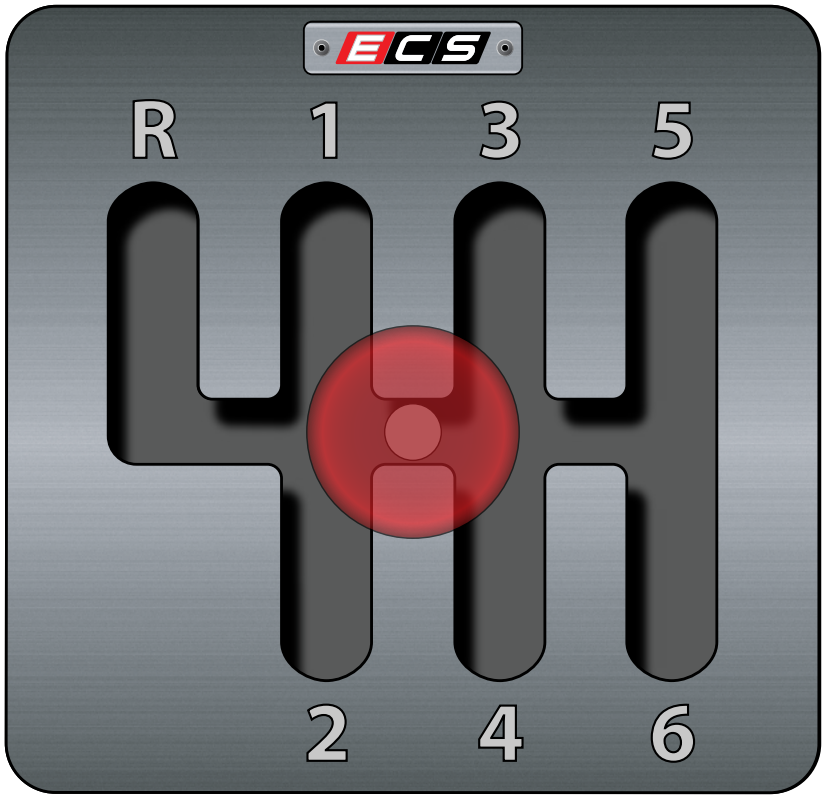
SHIFTER CABLE ADJUSTMENT

Let's take a moment and talk about exactly what's happening when you lock the shift cables into place. When the shift cables are locked into "home" position, the shifter will rest halfway between the 1-2 and 3-4 gates. This means that the shifter handle inside the vehicle is in the position depicted in the RH illustration below, and the shift tower on top of the transmission is also in the same position. Now that we know this, we can proceed with the adjustment.

WITHOUT Cables Locked in "Home" Position

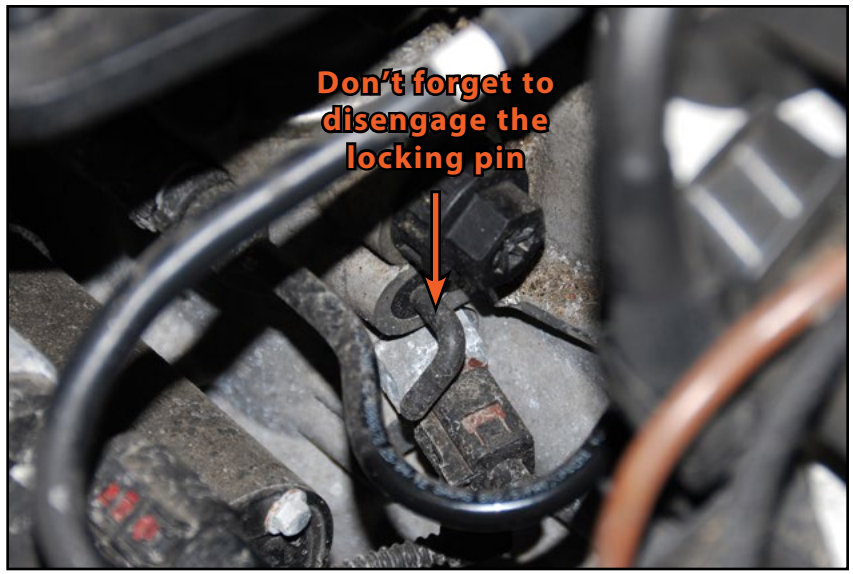


WITH Cables Locked in "Home" Position



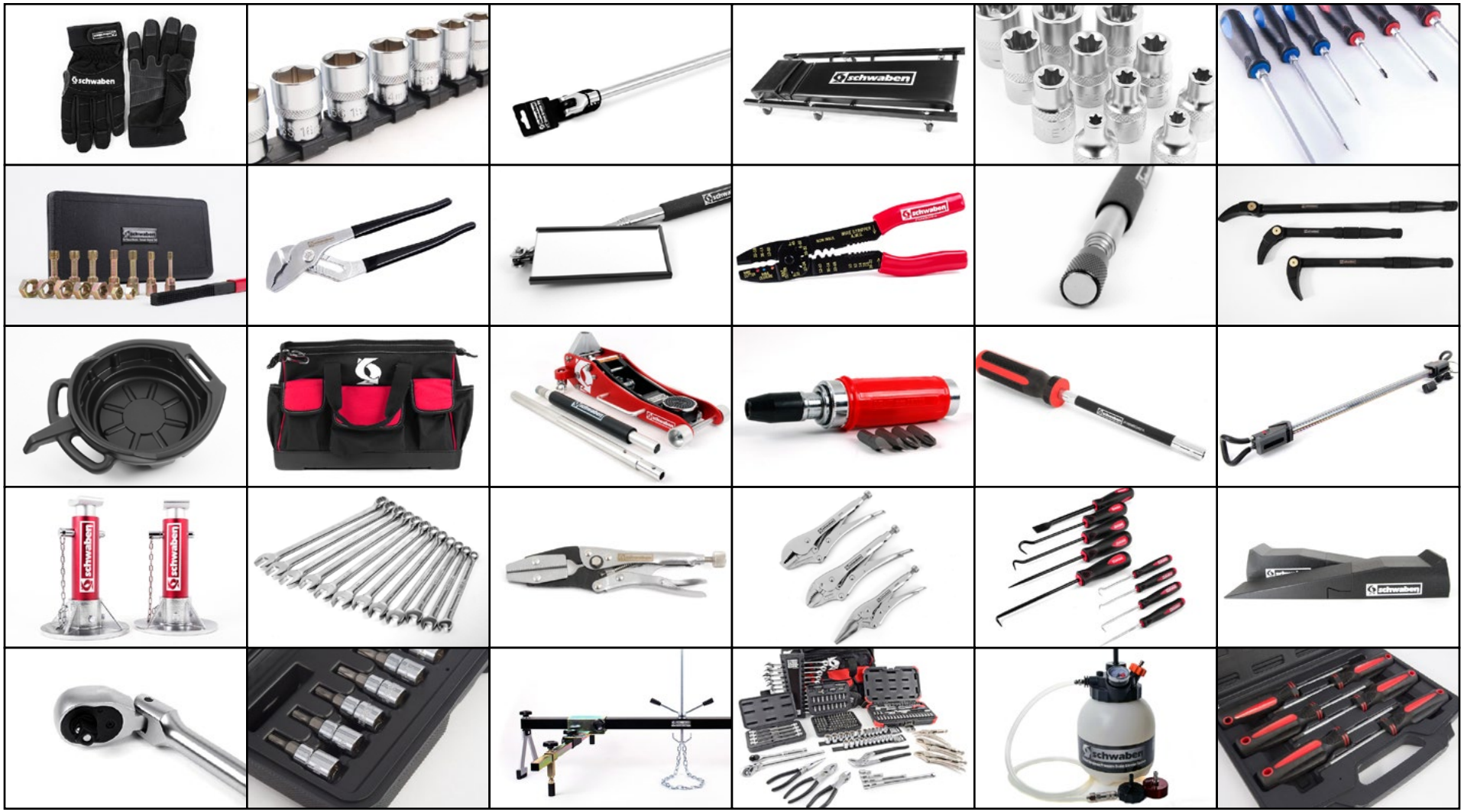
Back under the hood, engage both cable ends by turning the lock sleeves until they release and the springs expand.

- [ ] Disengage the locking pin from the selector shaft.
- [ ] Pull the alignment pin out of the shifter.
- [ ] Reinstall the shifter insulator and boot.
- [ ] Reinstall the air box/intake system.

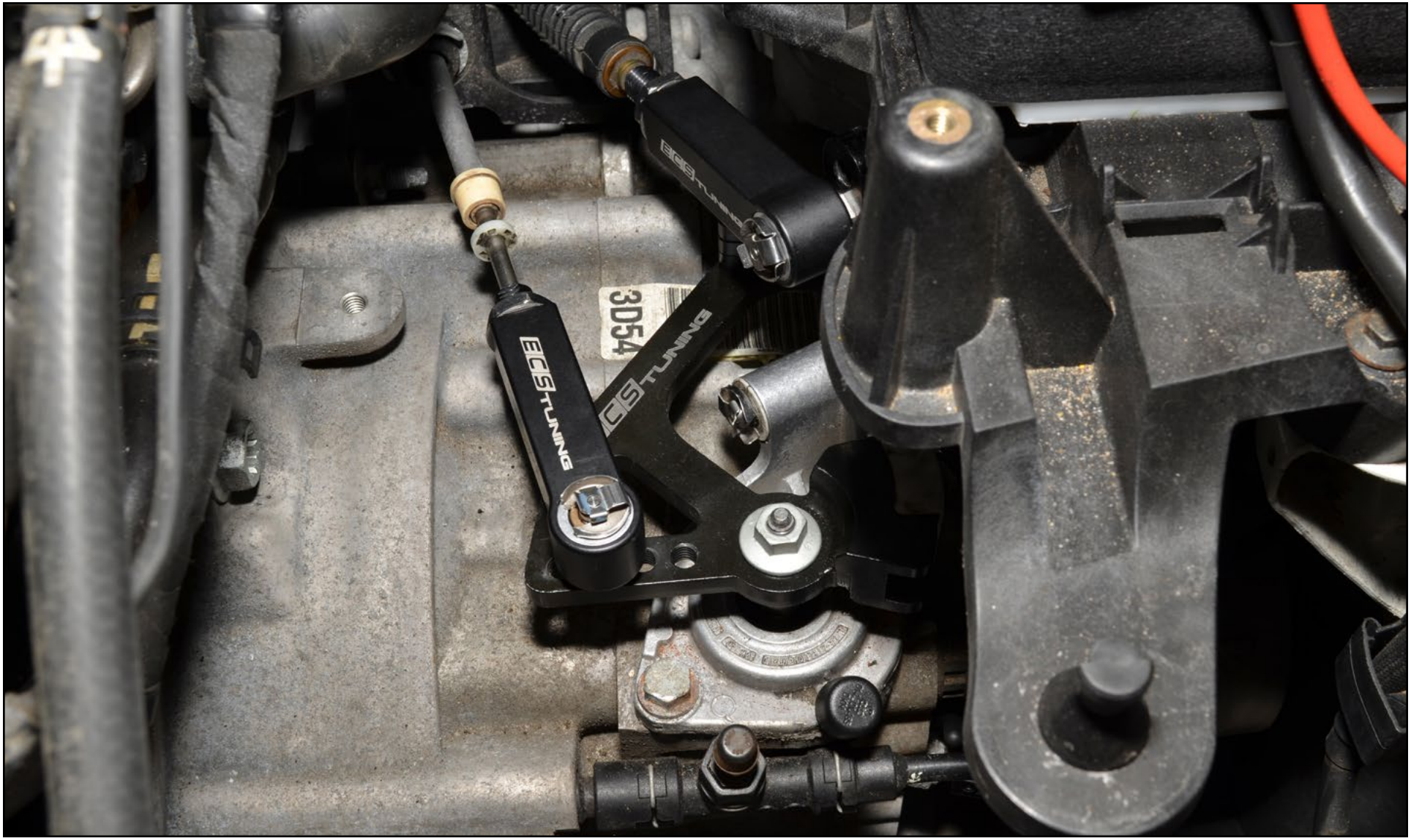


Your installation is complete!

At ECS Tuning, we carry a line of high quality Schwaben Tools and Equipment to help you build your ultimate tool collection. Never before has affordability and quality been so closely related. Our entire Schwaben line is subjected to strict in house testing for strength and durability. See what we have to offer and equip your garage without breaking the bank.



Your 6-Speed Short Shift Kit installation is complete!



These instructions are provided as a courtesy by ECS Tuning

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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