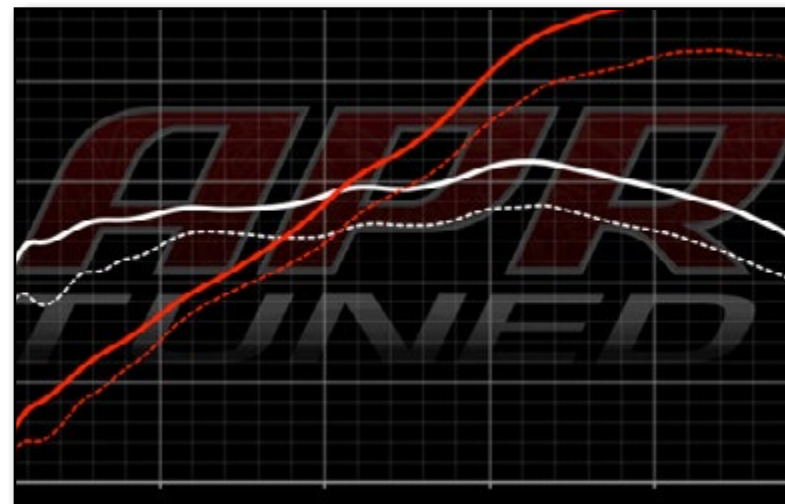


ECS TUNING

Audi B5 A4/S4 B6 A4

APR Performance Chip Tune

ECU Removal and Installation



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.

INTRODUCTION

APR Performance Chip Tunes

ECS Tuning offers APR Performance Chip Tunes by mail with an astonishing 3 day turnaround for the complete process to have your car up and tuned! Our smooth, trouble free process works like this:

- Once you place your order, our Customer Service Department will contact you to verify information, usually within the same business day.
- We e-mail you a pre-paid next day air label via UPS.com and an APR Chip-n-Ship form to fill out and send along with your ECU.
- You remove your original ECU and ship it to us.
- We flash your ECU with an APR Performance Tune and ship it back out the same day it is received.
- You reinstall your ECU and enjoy your new APR Performance Chip Tune!

ECS Difficulty Gauge



1 - Easy

Pro - 4

2 - Moderate

Advanced - 3

Looking for a performance upgrade that won't break the bank? Let ECS Tuning professionally flash your ECU with an APR Performance Tune for your Audi B5 A4/S4 or B6 A4. With these easy to follow instructions, you will be able to remove and package your ECU for shipping. Drop it in the mail, we'll provide a lightning quick turn around, you reinstall it, and you're back on the street! Thank you for purchasing an APR Performance Chip Tune. We appreciate your business!

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IMPORTANT

Be sure to print and completely fill out the APR Chip & Ship Form to send to us along with your ECU. Complete the entire form including all current modifications and a daytime phone number where you can be reached.

Failure to completely fill out this form can delay the return of your ECU.

The APR Chip & Ship Form has been e-mailed to you by our customer service department.

Two security bolts protect the ECU connectors from being tampered with on some of the Audi B5/B6 models. Once removed, they will no longer function as security bolts and must be replaced.



Security Bolts
M6 x 12
[ES#471417](#)

REQUIRED TOOLS

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

We recommend that you have a complete selection of tools and equipment necessary for automotive repair. Below is a list of the tools we used to remove and install the B5 and B6 ECU. Additional tools may be required for any issues that arise during installation such as rust, corrosion, or broken and stripped fasteners.

- Flat Blade Screwdriver(s) Available at ecstuning.com [ES#2225921](#)
- Torx Drivers: T30 Available at ecstuning.com [ES#11417](#)
- 3/8 Drive Torque Wrench..... Available at ecstuning.com [ES#2221245](#)
- Wiper Arm Puller Available at ecstuning.com [ES#2190252](#)
- 1/4" Ratchet, Extensions
- 1/4" Drive Sockets: 5.5mm, 10mm
- 3/8" Sockets: 13mm Deep, 16mm Deep
- 3/8" Drive Ratchet, Extensions
- Dremel Tool
- Dremel #426 1 1/4" Fiberglass Reinforced Cutoff Wheel
- Angled Pick

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser..... Available at ecstuning.com..... [ES#2167336](#)
- Shop Rags Available at your local auto parts store
- Masking Tape Available at your local auto parts store

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.
- If using an automotive lift, be sure and utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- When lifting a vehicle using a jack, always 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. Always make sure that the vehicle is securely supported on jack stands.

ECU TROUBLE CODE INSPECTION

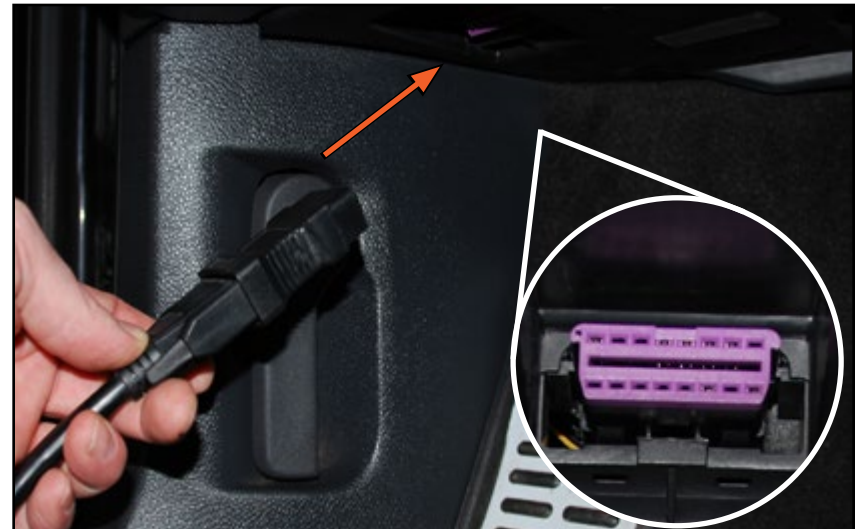
Step 1:

In order for your chip tune to be successful, you must send us an ECU from a running, driving vehicle that has no trouble codes and no driveability issues. To begin your inspection, turn the ignition "on" without starting the engine. The check engine light should illuminate. Start the engine. The check engine light should go out. This indicates that the PCM is properly powered up and communicating. If either of these checks fail, you must have them properly repaired before a chip tune can be performed on your vehicle.



Step 2:

Connect a scanner to the OBDII port on your vehicle (generally located in the driver's footwell) and check for trouble codes. If you do not own a scanner, many auto parts stores will scan your vehicle free of charge. Any trouble codes must have the root cause repaired before a chip tune can be performed on your vehicle. Simply clearing any trouble codes will not be sufficient.



ECU REMOVAL AUDI B5 AND B6

Step 1:

Open the hood and remove the battery cover by sliding it towards the RH (passenger) side of the car, then lifting it up off the rain tray. Note the markings on the battery cover in this picture. Normally just molded into the cover, we have highlighted them for reference. The green arrows indicate the direction in which to slide the cover for removal, the red and black indicate the positions of the positive and negative battery terminals underneath the cover.



Step 2:

Pull the cowl seal up off the lip of the cowl, then pull the rain tray forward out of the groove at the rear and remove it from the car.



ECU REMOVAL AUDI B5 AND B6

Step 3: Flat Blade Screwdriver

Pry off both plastic wiper arm caps to access the nuts underneath.

TECH TIP

Place a piece of masking tape above each wiper blade where it meets the windshield. This will help you reinstall them in the correct position.

Step 4: 16mm Socket, Ratchet

Remove both wiper arm nuts.



ECU REMOVAL AUDI B5 AND B6

Step 5: Wiper Arm Puller, 13mm Socket, Ratchet

One at a time, install a wiper arm puller over the end of each wiper arm and thread the pressing screw in by hand until it contacts the wiper shaft.

Now turn the pressing screw of the wiper arm puller in a clockwise direction using a socket and ratchet until the wiper arm pops loose of the wiper shaft. Remove the wiper arms from the car.

TECH TIP

If you do not have a wiper arm puller, you can usually remove the arms by tilting them back and forth on the wiper shaft. In some cases if the arms are badly corroded, a puller may still be required for removal.

Step 6: Angled Pick

Locate the three clips that secure the rain deflector to the cowl and remove them by pulling them off.



ECU REMOVAL AUDI B5 AND B6

Step 7: Angled Pick

Beginning in the lower LH corner of the windshield, carefully pull straight up on the rain deflector until you pull it out of the groove at the base of the windshield. Once you have pulled a couple inches out, as shown in the picture, continue with your fingers and work your way across the windshield until it is completely out of the groove.



Step 8:

Flex the rain deflector slightly and guide it around the hood hinges, then remove it from the car.



ECU REMOVAL AUDI B5 AND B6

Step 9: 10mm Socket, Ratchet

Disconnect the negative battery terminal and isolate it so it does not accidentally swing over and contact the negative battery post.

CAUTION

To reduce the risk of fire, explosion, or personal injury, **ALWAYS** disconnect the battery by removing the negative battery terminal.

Step 10: T30 Torx Driver

Remove the five screws securing the ECU cover in place, then remove the cover.



ECU REMOVAL AUDI B5 AND B6

Step 11: Flat Blade Screwdriver

Remove the ECU hold down strap by pushing down on the LH (Driver's) side of the strap, then prying it out slightly with a screwdriver.



Step 12:

If equipped, locate the security bolts on the ECU connector guard then proceed with the next step.

NOTE

If your vehicle is not equipped with security bolts and the ECU is only secured by the hold down strap, proceed with steps 15 through 18 to disconnect the ECU connectors, disregarding steps related to the connector guard.



ECU REMOVAL AUDI B5 AND B6

Step 13: Dremel Tool w/Cutoff Wheel

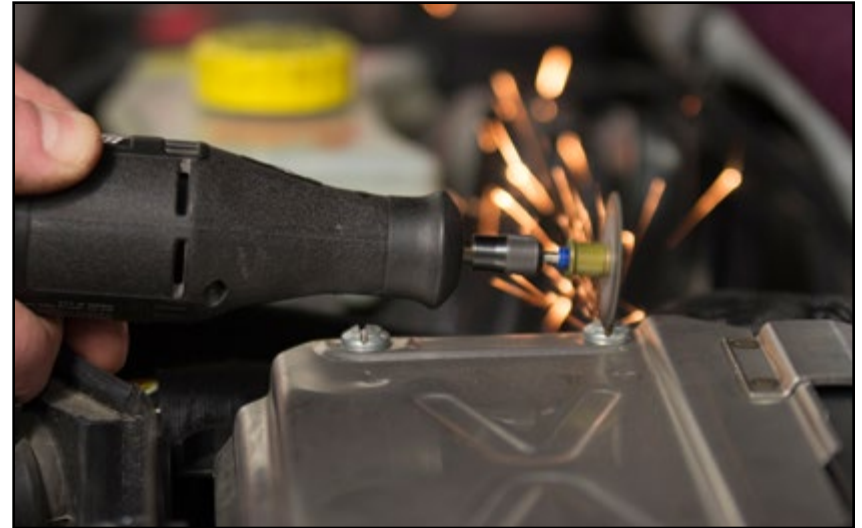
Cut a slot into the head of each security bolt. Take your time and cut the slot as close to the centerline of each bolt as possible.

NOTE

We are using a Dremel#426 1 1/4" Fiberglass reinforced cutoff wheel to cut the slots.

CAUTION

Cover the windshield to prevent any sparks or metal chips from landing on the surface.



Step 14: Flat Blade Screwdriver

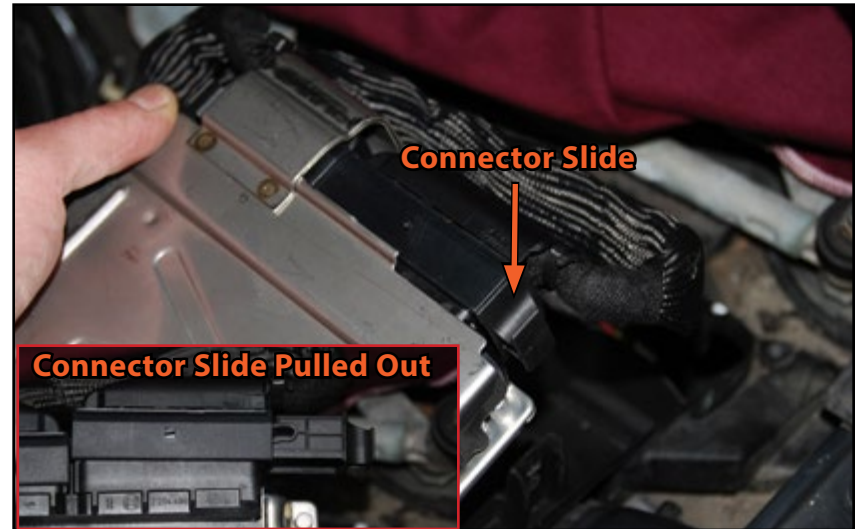
Remove both security bolts using a flat blade screwdriver. You will have to hold the ECU while you are loosening the bolts.



ECU REMOVAL AUDI B5 AND B6

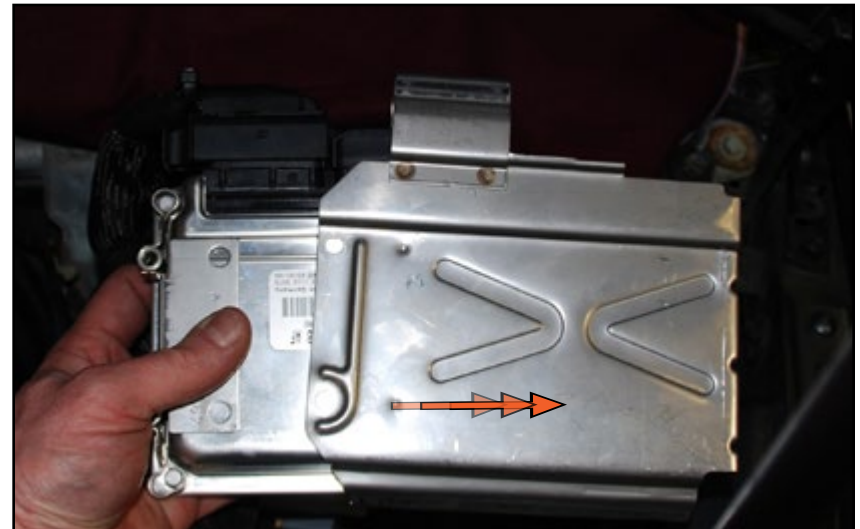
Step 15:

Lift the ECU up to access the connectors. Disconnect the first connector by pulling out the connector slide. The slides are designed to push the connector off of the ECU as you pull them out. You may have to pull fairly hard and it can also help to push on the connector as you pull out the slide.



Step 16:

With the first connector removed, slide the ECU connector guard off the end of the ECU.



ECU REMOVAL AUDI B5 AND B6

Step 17:

Lift off the connector guard bracket on the end of the ECU and set it aside.

CAUTION

Be sure that the vehicle will be stored in a covered area while the ECU is disconnected. Cover the ECU connector with a plastic bag as an additional caution. Make sure that the ECU connectors do not get wet or dirty while they are disconnected.



Step 18:

Pull out the connector slide and remove the remaining ECU electrical connector.

CAUTION

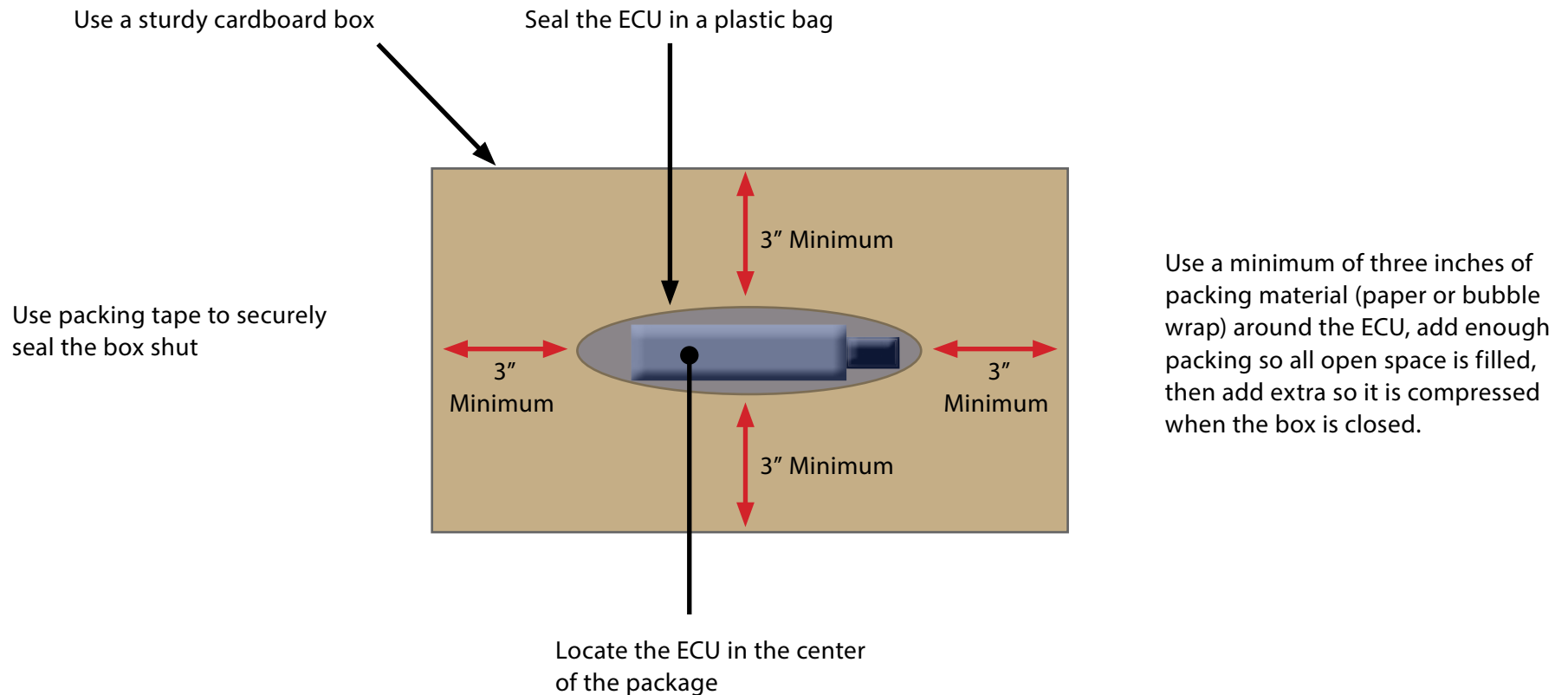
Do not attempt to connect the battery or start the engine while the ECU is removed from the vehicle.



You are now ready to pack and ship your ECU! (Page 16)

PACKING AND SHIPPING YOUR ECU

Inspect the diagram below for proper packing guidelines, then follow the steps on pages 17 through 19 to pack your ECU.



PACKING AND SHIPPING YOUR ECU

Step 1:

Seal the ECU in a plastic bag to keep it dry.



Step 2:

Use a box that is large enough to allow for the required amount of packing material around the ECU. Paper or bubble wrap works best. Put at least three inches of packing material in the bottom of the box then place the ECU on top.



PACKING AND SHIPPING YOUR ECU

Step 3:

Put at least three inches of packing material on top and around the sides of the ECU. Fill all additional space, then add extra packing material so when you close the box, you will have to push and compress the additional packing material. This will ensure that the ECU will not move around in the box and that the packaging will absorb all the shock if the box gets dropped.

Step 4:

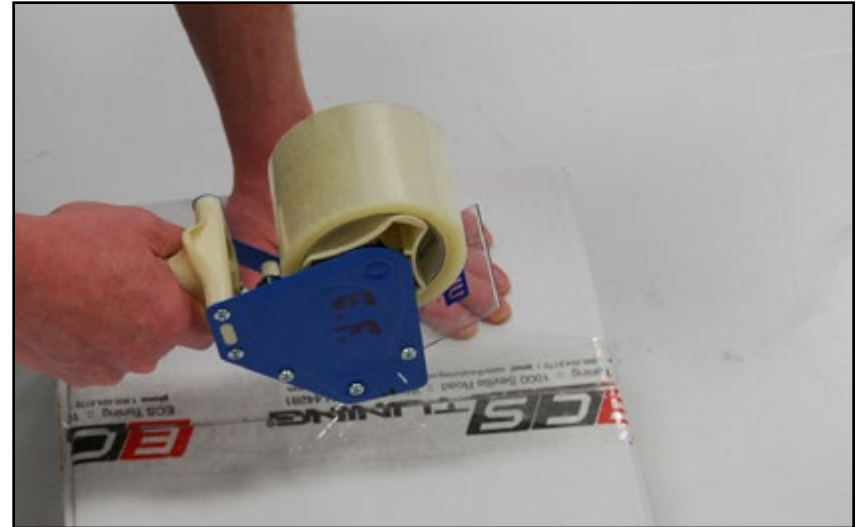
Put your completed APR Chip & Ship form in with your ECU.



PACKING AND SHIPPING YOUR ECU

Step 5:

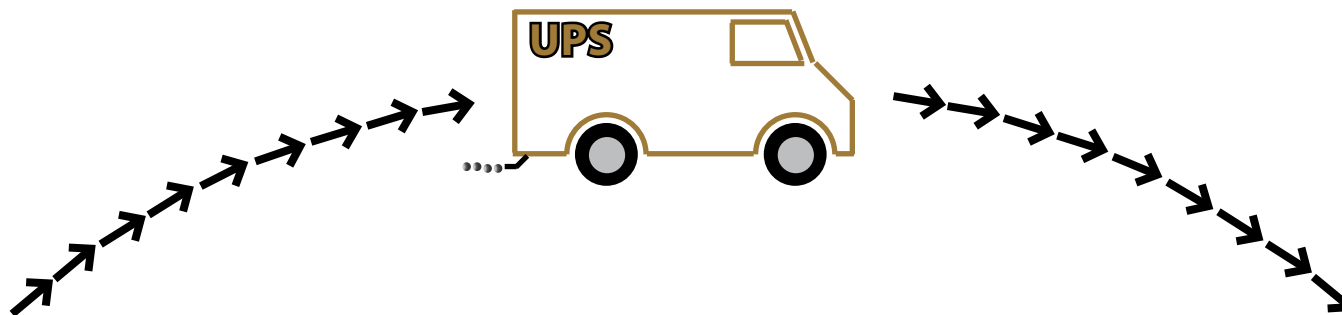
Seal the box shut with packing tape.



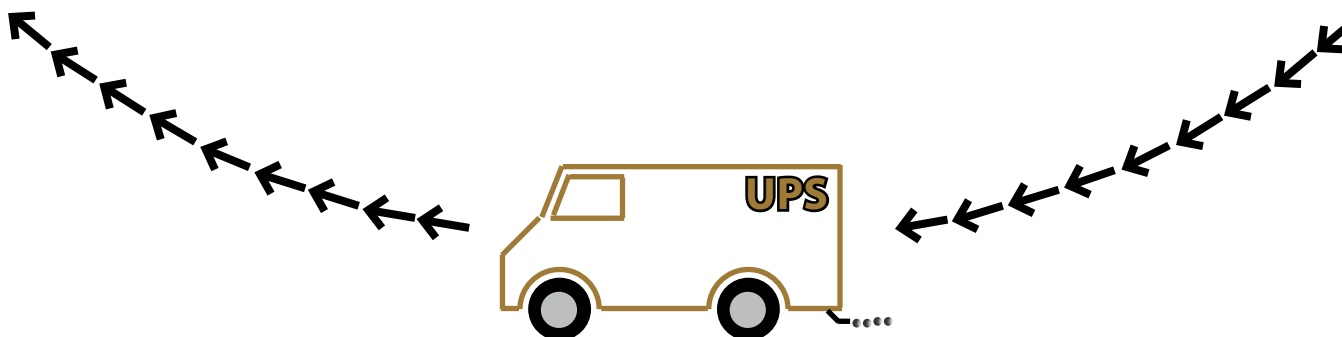
Step 6:

Tape your pre-paid label to the box and drop it off at the nearest UPS location.





**3 Day
Turnaround**



REINSTALLING THE ECU

Reverse the removal steps to reinstall your ECU, paying particular attention to the following steps:

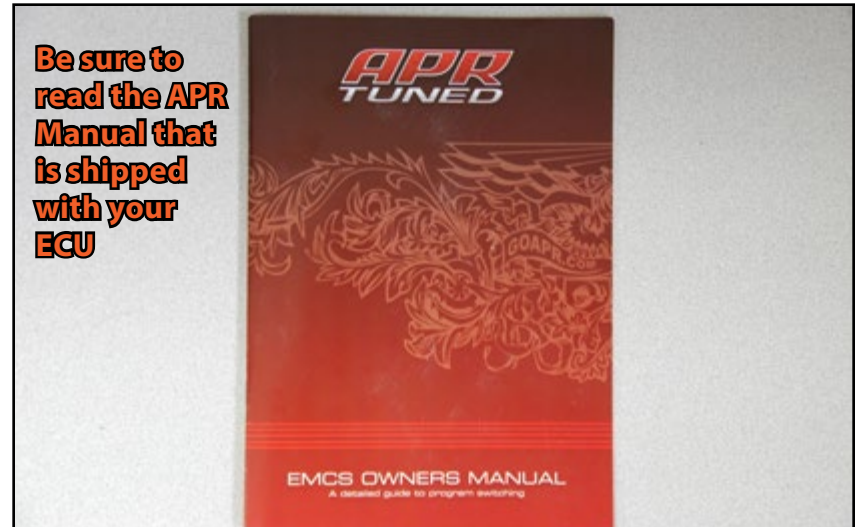
Install new security bolts as described on page 22.

Don't forget when installing the wiper arms they are different on the left and right. The RH (passenger) side base is shorter. Line the blades up with the tape marks on the windshield and torque them to 21 Nm (15 Ft-Lbs).

Be sure to read the APR manual that is shipped with your ECU.

Scan and clear any fault codes after reinstalling your ECU.

Contact ECS Tuning Customer Service with any tech support questions.



INSTALLING THE NEW SECURITY BOLTS

Step 1:

Line up the ECU connector guard as needed and start both of the new security bolts.



Step 2:

Thread both bolts all the way in, then continue to tighten them until the head shears off of each one.



Your APR Performance Chip Tune 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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