

Engine Control Module, Replacing



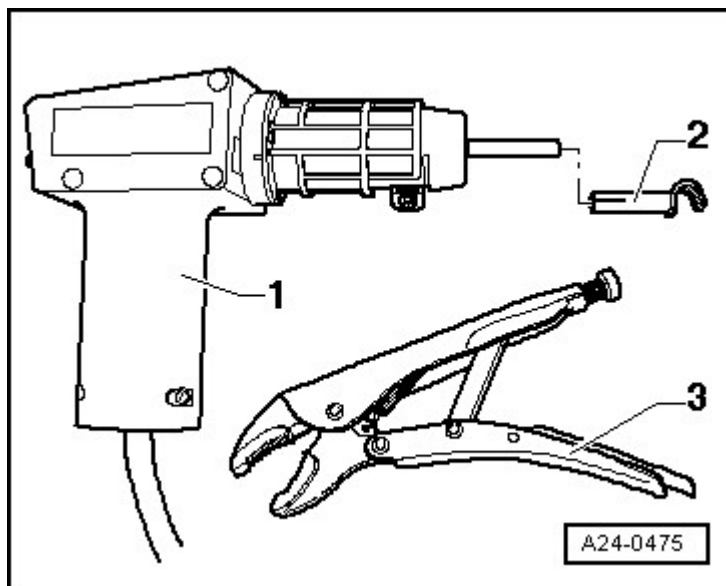
Note

When connector is disconnected from the Engine Control Module (ECM), adaptation values are erased and content of DTC memory remains intact.

Removing

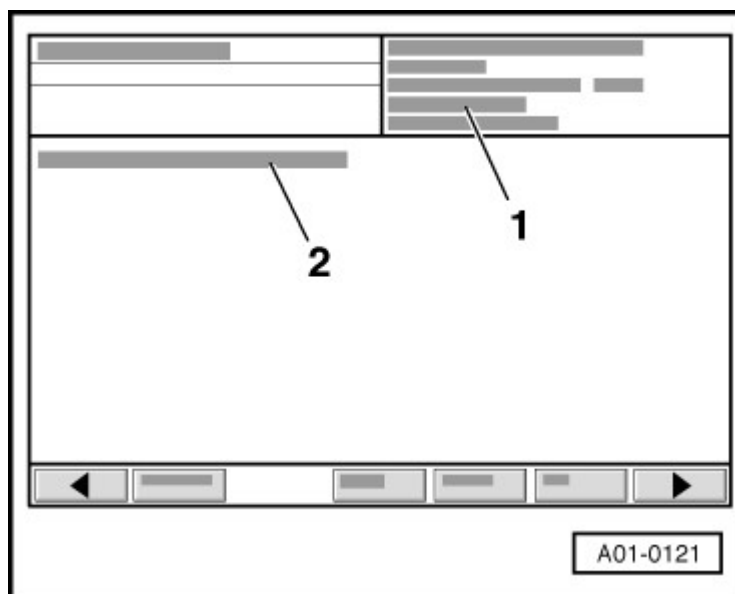
Special tools and workshop equipment required

- ♦ Heat gun -1- (from the wiring harness repair kit -VAS 1978-)
- ♦ Nozzle attachment -2- (also from the wiring harness repair kit -VAS 1978-)
- ♦ Commercially available locking pliers (vise grips)
- ♦ Vehicle diagnostic, testing, and information system -VAS 5051B-
- Connect Vehicle Diagnostic, Testing and Information System -VAS 5051B- and select vehicle system "01 - Engine Control Module (ECM)". Thereby, the ignition must be switched on.

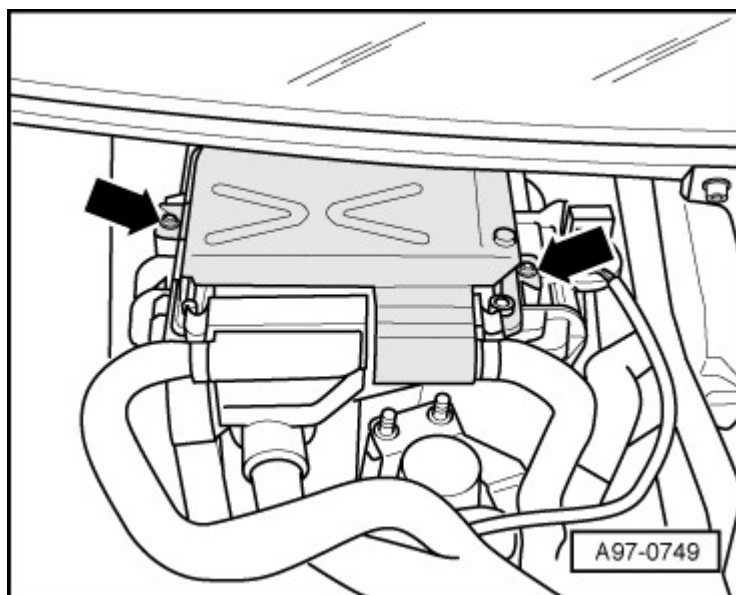


On the screen of vehicle diagnostic, testing, and information system -VAS 5051B-, the control module identification and coding -2- are displayed.

- Allow control module identification to be displayed and then print it out.
- Switch ignition off.
- Remove right cover from plenum chamber.



- Loosen both bolts -arrows- and remove Engine Control Module (ECM) toward front.



To increase difficulty with which ECM connectors can be accessed, ECM -1- is secured in a protective housing -5- with retaining tabs -2- and shear bolts -3 and 4-.

The threads of the shear bolts have been coated with a locking compound, to further increase the difficulty of unscrewing the shear bolts.

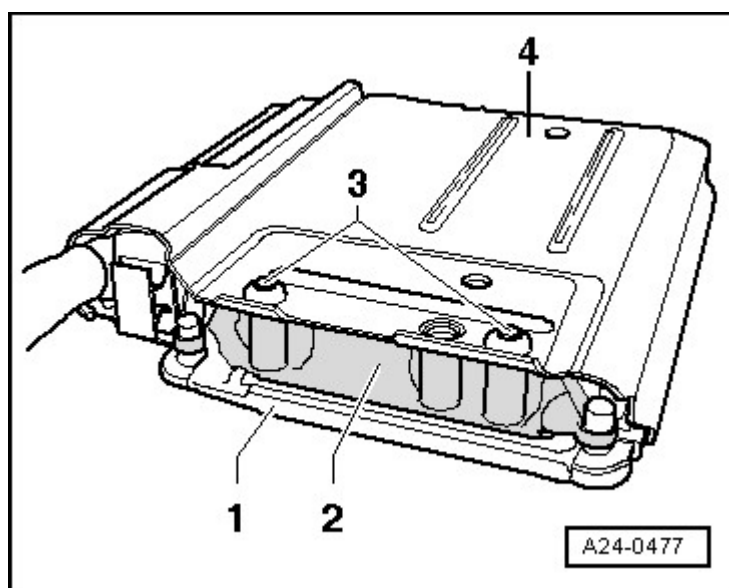
To disconnect connectors from engine control module (ECM) (e.g. to connect the test box or to replace the ECM), the ECM must be separated from the protective housing. The procedure for this is as follows.

Procedure:

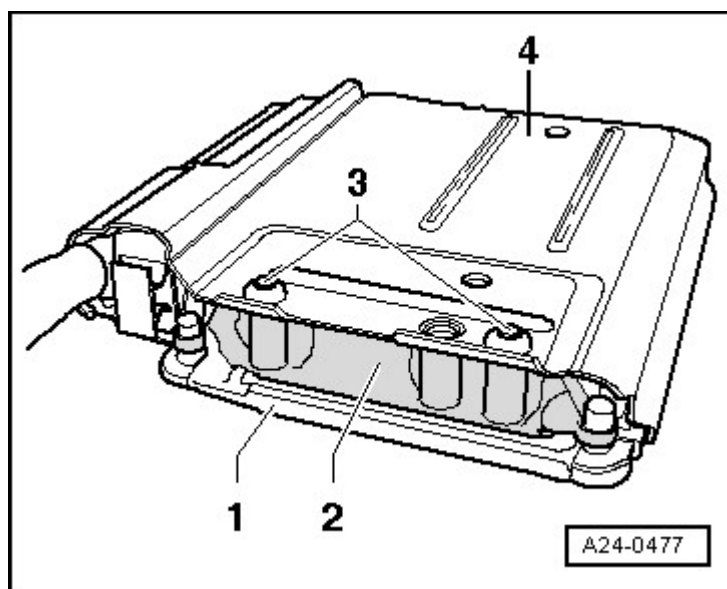


Caution

To prevent damages (burning) of wire and harness connections, insulation and control modules, perform the following work procedures exactly! Observe operating instructions for heat gun.



- “Flip” Engine Control Module (ECM) with protective housing in direction of engine compartment so that the locking mechanism (item -2- in illustration) becomes visible, place a clean rag below the Engine Control Module (ECM) with protective housing.



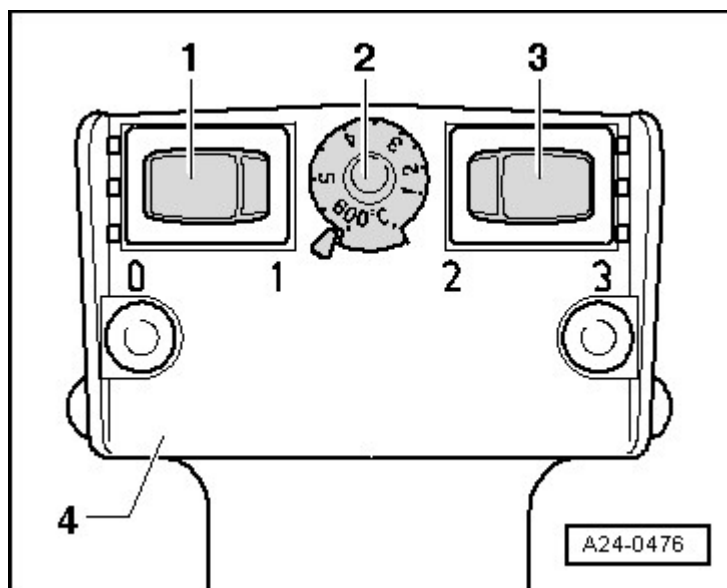
- Set adjustment on heat gun as shown in the illustration, with temperature potentiometer - 2- set to maximum heat and the two-stage air flow switch -3- set to level 3.

**Note**

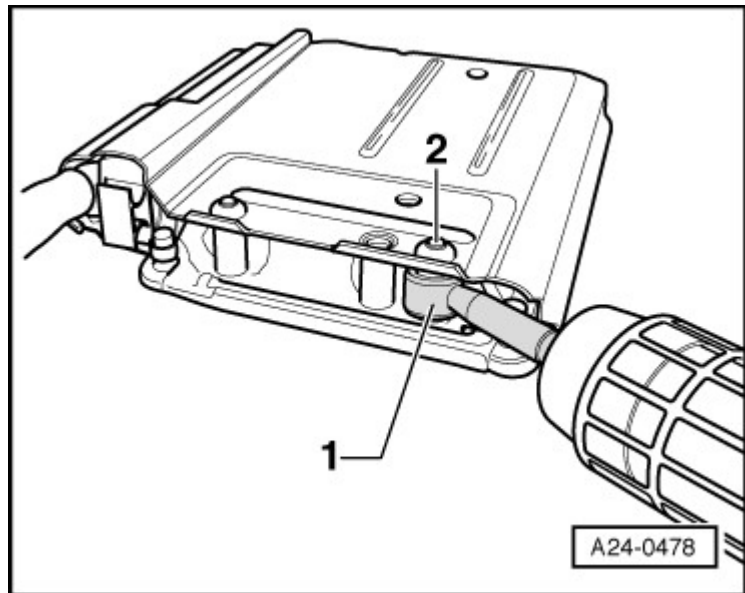
Finally, the locking mechanism thread into which the shear bolts are screwed is warmed with a heat gun. During this step, the holding effect that the locking compound has on the shear bolt threads is reduced, thereby allowing the shear bolts to be unscrewed easier.

**WARNING**

When heating threads of locking mechanism, snap-off screws and components of protective housing are also heated intensely. Do not burn yourself! Make sure that only the threads are heated as much as possible, and not any of the surrounding parts. Cover these parts if necessary.

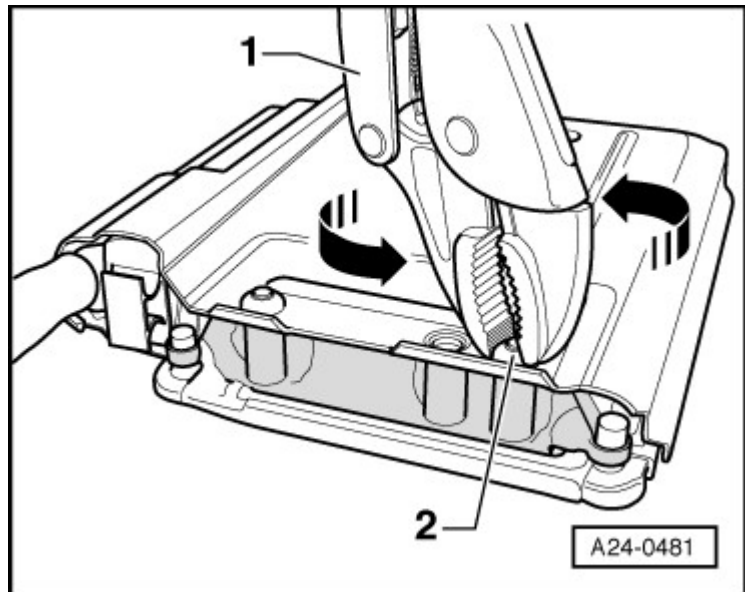


- Guide air gun nozzle -1- onto locking mechanism thread so that the nozzle "encloses" the thread. Let nozzle make contact steadily on upper end of protective housing.
- Switch on heat gun and heat thread for approx. 20 to 25 seconds.

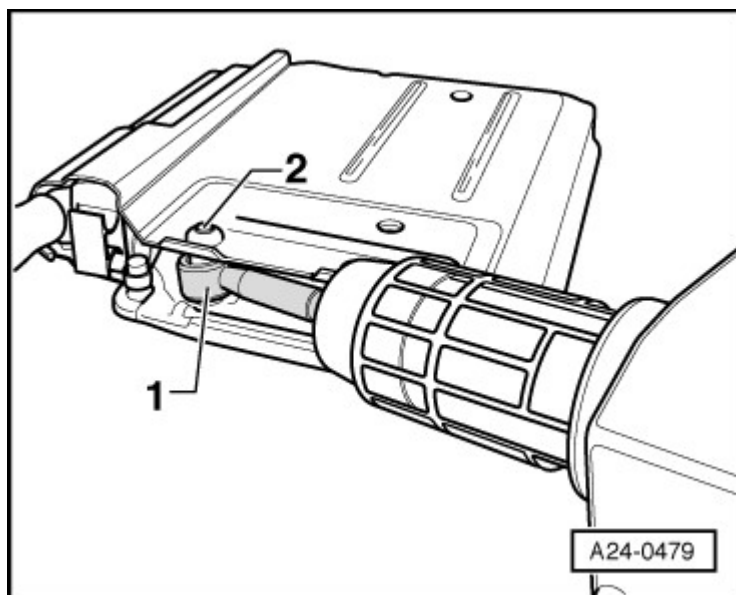


- Grab bolt head -2- with locking pliers -1- and turn shear bolt in direction of -arrow-.

The procedure for the second shear bolt is exactly the same. Be especially careful, because the control module connectors are located in the immediate vicinity.



- Guide air gun nozzle -1- against locking mechanism thread so that the nozzle “encloses” the thread. Let nozzle make contact steadily on upper end of protective housing.
- Switch on heat gun and heat thread for approx. 20 to 25 seconds.



- Then grab bolt head -2- with locking pliers -1- and turn shear bolt in direction of -arrow-.

Then, the engine control module (ECM) can be separated from the protective housing.

- Disengage connectors from Engine Control Module (ECM) and then disconnect the connectors.
- Remove old Engine Control Module (ECM) and insert new ECM.

Installing

Installation is performed in reverse order.

- Engine Control Module (ECM) -J623- must be installed again with protective housing.
- New shear bolts must always be used.

After installing new Engine Control Module (ECM), the following work steps must be performed:

- If Engine Control Module (ECM) -J623- is replaced, select “Replacing J623, additional steps” function in “Guided Fault Finding”.

