#### **Technical Solutions**

Engine Code: CCBA License Plate Number:

Customer Number:

Model Year Code: A

Model Description: S4 Sal. quat.3.0 V6245 M6S

Transmission Code: KMR

Final Drive Code:

Customer Name Abbreviated:

Service Advisor Name:

## Technical Service Bulletin

01 Automatic Detection of Unauthorized Chip tuning (TD1 Warranty Key)

Release date: Mar 2, 2012

### Condition

Customer vehicle fitted with unauthorized ECM tuning.

# Technical Background

All systems on Audi vehicles are engineered to work together using the factory calibrations which have countless hours of validation and testing prior to being released for sale. The Audi warranty coverage is based on the results of developing the vehicle under the factory calibration. A customer's vehicle may be equipped with unauthorized hardware or software tuning. Modifying the vehicle via unauthorized and unproven tuning can put additional stress on vehicle components outside of intended design limits. These modifications can cause damage and additional wear to vehicle components, subsequently voiding or reducing coverage of the factory powertrain warranty.

Engine tuning ("chipping", "flashing", or "piggy back" devices) can modify air/fuel ratios, spark settings and timing advance, knock detection, manifold boost pressure (when applicable), maximum permissible engine speed, maximum permissible vehicle speed, and other performance parameters. These changes degrade factory programmed safeguards protecting the powertrain against low quality/low octane fuel, high load operation under high temperatures, high elevation operation, engine torque management, and more. These changes can also have a negative impact on vehicle emissions which and may be in violation of state and/or federal law. The alteration of these powertrain component protection parameters increases the likelihood of powertrain wear and/or damage. Unauthorized powertrain modification can also induce drivability issues and DTCs which cannot be repaired other than returning vehicle to OEM factory stock configuration.

Audi's current dealership level diagnostic equipment allows for automatic detection of unauthorized ECM tuning on many current vehicle models. Every new model year will bring more vehicles which will automatically be detected: this detection runs automatically in the background of the normal diagnostic process, and will be completely transparent to the technician working on the vehicle.

If an unauthorized ECM calibration is detected, a "TD1" code will automatically be populated within the Warranty Key section of ELSA web. Not every tuned vehicle will be detected automatically; however, selected vehicles can be checked for unauthorized ECM software by performing a Specified vs. Actual ECM Software comparison.

This warranty code cannot be manually added or removed.

Tip: For further information on the TD1 key, please contact AoA Warranty. See Audi Warranty Online (Warranty Companion or Resource Center) or contact Audi Warranty for process details.

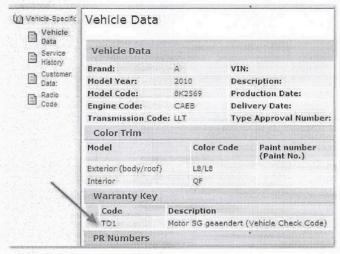


Figure 1. Warranty Key Code (TD1 - unauthorized ECM tuning).



No powertrain tuning is supported, authorized, or warrantied by Audi of America.

### **Examples of Powertrain Tuning**

- ECM Programming Modification ("chipping", "flashing", or "piggy back" devices)
- Intake system modifications ("cold air" intake, charge air cooler modifications)
- Aftermarket turbocharger or supercharger components (turbo, supercharger, or supercharger drive pulley)
- Aftermarket clutch/flywheel components
- Shifter modifications ("short shifter")

#### When Powertrain tuning is Suspected

A warranty key must be entered manually when a vehicle is fitted with aftermarket equipment. See Audi Warranty Online (Warranty Companion or Resource Center) or contact Audi Warranty for process details.

Technicians must also disclose vehicle tuning when opening a TAC ticket on a vehicle and should be prepared to explain exactly what type of tuning is found.

A Specified vs. Actual ECM Software comparison can be used to test for chip tuning on some modern Audi engines via the TD1 warranty key flag.

## **Production Solution**

Not applicable.

### Service

Not applicable.

## Warranty

This TSB is informational only and not applicable to any Audi warranty.

## Additional Information

All parts and service references provided in this TSB are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.

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