



# Technical Service Bulletin

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## 01 Automatic detection of unauthorized chip tuning (TD1 warranty key)

01 21 10 2028842/3 September 1, 2021. Supersedes Technical Service Bulletin Group 01 number 14-91 dated September 10, 2014 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
All	2009 - 2023	All	Not Applicable

## Condition

REVISION HISTORY		
Revision	Date	Purpose
3	-	Revised header (Added Models and Model Years) Revised <i>Service</i> (Updated test options)
2	09/10/2014	Revised header (Added Model Year)
1	03/02/2012	Initial publication

### Workshop findings:

- The customer's vehicle is fitted with unauthorized ECM tuning.

## Technical Background

All systems on Audi vehicles are engineered to work together using the factory calibrations, which have been extensively tested and validated before the vehicle is released for sale. The Audi warranty coverage is based on the results of developing the vehicle under the factory calibration. If a vehicle is equipped with unauthorized hardware or software tuning, it can cause stress on vehicle components outside of intended design limits and can cause damage and additional wear. Subsequently, factory powertrain warranty coverage is reduced or voided.

Engine tuning ("chipping", "flashing", or "piggyback" 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 that protect 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 may be in violation of state and/or federal law. The alteration of these powertrain component protection parameters increases the likelihood of



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powertrain wear and/or damage. Unauthorized powertrain modification can also cause drivability issues and DTCs that cannot be repaired without returning the 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. This detection runs automatically in the background during the normal diagnostic process. If unauthorized engine tuning is detected, a "TD1" code is automatically populated within the Warranty Key section of Elsa (Figure 1). This warranty code cannot be manually added or removed. Not every tuned vehicle will be detected automatically; however, selected vehicles can be checked for unauthorized ECM software if an ECM software specified vs. actual comparison is performed.



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



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



**Note:**

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

### Examples of powertrain tuning:

- ECM programming modification ("chipping", "flashing", or "piggyback" 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:



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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.

An ECM software specified vs. actual comparison can be used to test for chip tuning on some modern Audi engines via the TD1 warranty key flag. See below for options:

- 01 – SVM Check Control Module Configuration.
- 01 – Check Warranty Info.
- 01 - Spec. Actual Comparison test.

## 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 (2028842) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

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