

Reflash J2534-1

Рост сложности программного обеспечения электронных систем современных автомобилей вызывает увеличение вероятности ошибок программистов.

Поэтому согласно требованиям EPA все автомобили, начиная с 2004 модельного года обязаны соответствовать стандарта SAE J2534. Их суть в том, что в ПО компьютера автомобиля (ECM/PCM) должны быть внедрены соответствующие программные модули, допускающие использование неоригинального оборудования и приложений MS Windows (версии DLL, API приложения) для проведения перепрограммирования (изменения «калибровок»).

При этом EPA выразило уверенность в том, что цена ПО будет «сочетанной, столь и разумной».

Перепрограммирование ECM иногда может быть единственным способом устранения неисправности, поэтому технология J2534 особенно важна для сервисных центров не обремененных приставкой «официальный дилер»

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Устройство J2534 с одной стороны подключается к персональному компьютеру/ноутбуку через стандартный интерфейс PC (обычно USB), а с другой – в привычный диагностический разъем (DLC J1962)



Программное обеспечение таких «девайсов» обязательно содержит драйвера программного устройства API (ISO22900-2).

Можно сказать, что в настоящее время такие модули производятся «всеми кому не лень» т.е.десятком фирм.

Reflash J2534

Технология J2534 заключается в том, что, используя подключение к Интернету, персональный компьютер, соответствующие интерфейс и программное обеспечение, каждый желающий, в том числе и техники обычных сервисных центров могут проводить изменение «калибровок» и перепрограммирование блоков управления автомобиля. Интерфейс обычно выполнен в виде конструктивно законченного модуля, который подключается между диагностическим разъемом автомобиля и соответствующим портом персонального компьютера

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- OBD II Information
- Special Tools
- Pass Thru Reprogramming
 - Consumer Solution: PTV010415 -
 - Consumer Solution: PTV010504 -
 - Consumer Solution: PTV010515 -
 - Consumer Solution: PTV010618 -**
 - Consumer Solution: PTV010732 -
 - Consumer Solution: PTV010705 -
 - Consumer Solution: PTV010752 -
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 - Pass Thru Background Information
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- Measured Value Blocks
- Setting Readiness Codes
- What's New
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Volkswagen > 7L > Touareg > 2007 >

3.6L (BHX) 03H906032-AG, 3.6L (BHL) 03H906032-D >
PTV010618 > Overview

PTV010618 - Update Programming to Eliminate Slight Tip-

- **Update Programming, Air Conditioning Not Blowing (includes Pass Thru application)**
- **PT01-06-18 Technical Bulletin (PDF)**

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Пример цены подписки к т.н. «дилерской» информации

Volkswagen > Touareg > 2004 - 2008

Vehicle Tech Info Search







Diagnostic Codes
Repair Manuals
Component Locations
Component Locations (Touareg 2)
Wiring Diagrams
Maintenance Schedules
Fluid Capacity Charts
Technical Bulletins
Campaign Circulars
Training
OBD II Information
 Bosch Motronic MED 7 OBD General
 Bosch Motronic MED 9.1 OBD System
 2004 3.2L BAA Modes 05/06 and OBD
 2003-2006 4.2L AXQ, BHX Mode 06 and
 2005 3.2L BMX Modes 05/06 and OBD
 2004-2005 5.0L TDI PD BKW Mode 06
 VW 1996-2004 ECM/TCM Cal IDs and
 VW 2004-2006 ECM/TCM Cal IDs and
 Audi/VW 2008 ECM/TCM Cal IDs and
 VW 2008 ECM/TCM Cal IDs and CVNs -
 VW 2008 ECM/TCM Cal IDs and CVNs -
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Интернет

Reflash J2534

J2534 допускает программирование ECM (PCM) разных производителей, используя одно устройство (VCI).

Ожидается рассмотрение и утверждение стандарта J2534-2, который расширит зону действия его требований на другие электронные системы и уточнит/определит требования по использованию CAN протокола для доступа к перепрограммированию (re-flash communication).

К концу 2009 г. вводятся изменения (дополнения) некоторых правил EURO5 для автомобилей, продаваемых в Евросоюзе. Требования возможности перепрограммирования с использованием SAE J2434 станут обязательными в EU.

Примечание. Предусмотрен 6-месячный переходный период

Reflash J2534

SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J2534

ISSUED
FEB2002

Issued 2002-02

Recommended Practice for Pass-Thru Vehicle Programming

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Recommended Practice for Pass-Thru Vehicle Programming

Document Number: J2534/1
Date Published: December 2004

Issuing Committee:
Vehicle E E System Diagnostic Standards Committee

Scope:
This SAE Recommended Practice provides the framework to allow reprogramming software applications from all vehicle manufacturers the flexibility to work with multiple vehicle data link interface tools from multiple tool suppliers. This system enables each vehicle manufacturer to control the programming sequence for electronic control units (ECU's) in their vehicles, but allows a single set of programming hardware and vehicle

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SAE J2534-1 API is the "Recommended Practice for Microsoft Windows 32-Bit Application Programming Interface for Pass-Through Vehicle Reprogramming". Vehicle manufacturers will be required to provide a Windows software application for reprogramming their model year 2004 and beyond vehicles using a J2534-1 capable interface (e.g. [CarDAQ-Plus](#)). This standard and associated EPA requirements will give all vehicle service/repair facilities, not just dealers, the ability to perform in-field ECU software updates.

If you want hands on training on J2534, an engineer from Drew Technologies teaches SAE class C0733 "Understanding and Using the SAE J2534-1 API to Access Vehicle Networks".

In addition to reprogramming, J2534 supports diagnostics and calibration. The API provides protocol-independent functions to: read and write messages, establish periodic messages, perform filtering, and assert ECU reprogramming voltages.

- [Introduction to PassThru \(J2534\) Programming](#)
- [Discovery of the DLL](#)
- [Possible Error Codes](#)

The [PassThru \(SAE J2534-1\) v0404](#) specification can be purchased from SAE. The following pages explain DrewTech's implementation, and should be useful to end-users who want to program with our DLL:

Category	Name	Description
Setup	PassThruOpen	Initialize and connect to a CarDAQ
	PassThruClose	Disconnect from a CarDAQ
	PassThruConnect	Connect to a vehicle network
	PassThruDisconnect	Disconnect from vehicle network
	PassThruIoctl	Fast init sequence (ISO 9141)
	PassThruIoctl	Five baud init sequence (ISO 9141)
	PassThruIoctl	Report configuration parameter

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Technical Information | Community

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Technical Information

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TSB

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Pitstop

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Glove Box Materials

J-2534

Tech Times

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[All Mo..]

GDS Updates (Volume 11, I...

3/6/2008

[All Mo..]

Pressure and Vacuum (Volu...

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[Optima..]

2006.5 Optima (MG) 2.4L C...

3/6/2008

[Passen..]

Fuel Filter Replacement F...

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[Amanti..]

2007MY Amanti (GH) PCM Up...

3/25/2008

[Sporta..]

Sportage (KM) Passive Occ...

2/21/2008

[Sedona..]

Sedona (GQ) PCM Upgrade M...

2/20/2008

[Passen..]

"Passenger Air Bag Off" I...

2/4/2008

[Sedona..]

Sedona (GQ) Corroded Heat...

Pitstop

MORE ▶

++ GDS ++ - Microsoft Internet Explorer

HOME **GDS** GLOBAL DIAGNOSTIC SYSTEM

Preparation Diagnosis **Vehicle S/W Management** Repair

VCI: USB On VMI: Off Internet Off **VIN** Optima/Magentis(MG) / 2007 / D 2.0 VGT **System** ENGINE / 2.0L DIESEL(VGT) Search Prt Sc

Vehicle S/W Management

ECU Upgrade

Auto Mode
ENGINE
TSB
Manual Mode

EventList

Current ROM ID A1MG0M0EI02S Latest ROM ID A1MG0M0EI01T

Upgrade Event 63.MG DIESEL 2.0 WHITE SMOKE

Information

The ECU upgrade is successfully finished.

ROM ID : A1MG0M0EI01T

OK

CAUTION
*During the ECU Upgrade
Failure to follow these

- DO NOT operate any of the vehicle's systems during the upgrade.
- DO NOT disturb or disconnect the ECU(Data Link Connector).
- DO NOT turn off the VCI or DO NOT disconnect VCI USB Connector.
- DO NOT start the vehicle or turn the IG key off.
- DO NOT operate any of the vehicle's other systems(climate control,lighting,audio,etc.).

Setting Shop Manual TSB Case Analysis ETM DTC Guide DTC Current Data Actuation Test Flight Record DVOM Oscilloscope Simulation Test ECU Upgrade No DTC Fault Code Searching Knowledge Feedback Internet Update

Start ++ GDS ++ - Microso... 12:28

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Стоимость некоторых устройств J2534:

Поставщик / Цена / Модель:

Drew Technologies \$1,555.13 CarDAQ Plus

Actia \$999.95 PassThru+ XS

Vetronix Corporation*\$1,595.00 ES6510 Flasher

EASE Diagnostics \$1,150 Universal Reprogrammer

Snap-On \$1,495.00 Pass Thru Pro

Blue Streak Electronics Inc. \$1,299 .00BSE-2534 Global Programmer и др.

* В 2003 году Vetronix был куплен фирмой ETAS (Robert Bosch)

Reflash J2534

Аппаратные J2534 «интерфейсы» соединения с ЕСМ

Flasher LT

*Welcome to the future of
affordable, in vehicle
J-2534 reprogramming.*

Bosch Diagnostics Presents: The Flasher LT

The Flasher LT is a laptop based pass-thru vehicle network interface that connects directly to the vehicle's J-1962 OBD II connector. Flasher LT offers fast, reliable, manufacturer specific J-2534 reprogramming capability in your shop at an affordable price.

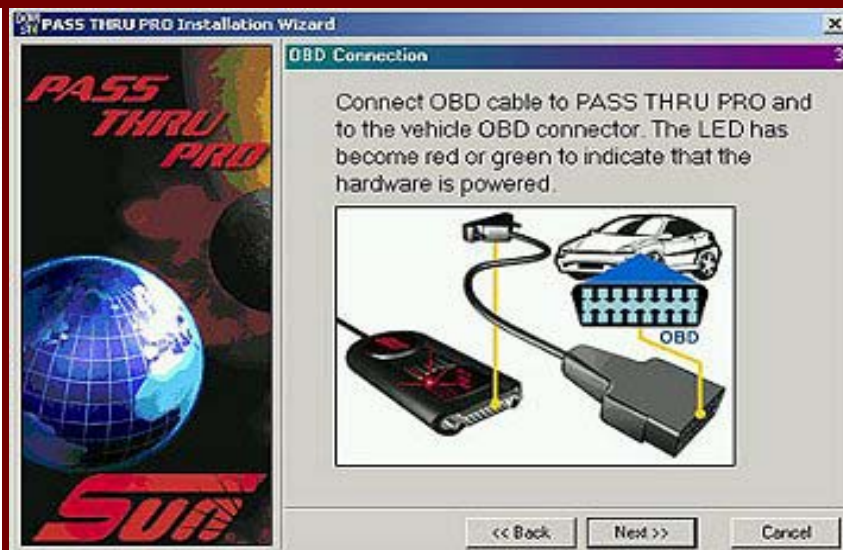
Original equipment manufacturers introduced reprogrammable ECU's on vehicles in the mid 1990's. There are millions of vehicles currently on the road in need of software updates to correct drivability concerns. In addition, control module replacement requires initialization programming.



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ACTIA Inc.
PassThru+XS





**Drew
Technologies, Inc.**

CarDAQ-Plus



Vehicle



Wireless laptop
or no PC at all

Reprogramming Device /
Embedded Platform



J2534-ON-KIT

Price: \$1,150.00 + 1 Bonus

J2534 On-Board Reprogramming Kit

This kit allows you to reprogram controllers in the vehicle.
(OEM Data Subscriptions Not Included)

Includes:

- Universal Reprogrammer Unit
- EASE Flash Wizard
- OBD II Cables (Blue & Black)
- GM OBD I Cable
- Power Transformer
- Cigarette Plug Power Cable
- USB Cable
- Carrying Case



Reflash J2534

Пример возможности техников не авторизированных СТО доступа к перепрограммированию (J2534)

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SEPS SUBSCRIPTION INCLUDES: (SDS TOOL KIT SOLD SEPARATELY)

1. One year access to SEPS software/updates
2. Database (ECU calibration files)
3. Online Operator's Manual
4. Serial Number & additional information * **provided by mail**

Operators Manual

 Easy to Use Instructions Download and Read Completely Before Downloading and Installing any Software

[FREE PREVIEW](#)

ADVANTAGE | DEALER LOCATOR | SITE MAP | FAQs | POLICIES | PLUGINS

Примеры сервисных бюллетеней

Reprogramming J-2534 Files

November 2008

Affected Unit	Year	Vehicle	Engine	Aspiration	Transmission	Specification	Pack Number	Details	Neccesary connector
ECM	2003	Baja	2.5L	non-Turbo	MT, AT	FED, CAL	UD-S205C	P0172, Hard start with open throttle, P030X, P0172, Hesitation	None
ECM	2003	Impreza	2.5L	non-Turbo	MT, AT	FED, CAL	UD-S205C	P0172, Hard start with open throttle, P030X, P0172, Hesitation(Step2), Hesitation(Step1)	E/G-2
ECM	2003	Legacy	2.5L	non-Turbo	MT, AT	FED, CAL	UD-S205C	P0172, Hard start with open throttle, P030X, P0172, Hesitation	None
ECM	2003	Outback	2.5L	non-Turbo	MT, AT	FED, CAL	UD-S205C	P0172, Hard start with open throttle, P030X, P0172, Hesitation	None
ECM	2004	Baja	2.5L	non-Turbo	MT, AT	FED	22611AJ20D	P0172, P0464, P0139	None
ECM	2004	Forester	2.5L	non-Turbo	MT, AT	FED, CAL	22611AJ012	P0172, P0139	None
ECM	2004	Forester	2.5L	Turbo	AT	FED, CAL	UD-S211A	Rough idle after cold soak in high altitude area	None
ECM	2004	Forester	2.5L	Turbo	MT	FED, CAL	UD-S222C	Rough idle after cold soak in high altitude area, Cruise control intermittently shuts off	None



Technical Service Information Bulletin July 9, 2007

Title:

HESITATION OR BUMP FEELING UPON ACCELERATION FROM A STOP

Models:

'07 LS 460/460L

TC009-07

TRANSMISSION & CLUTCH

Introduction

Some 2007 model year LS 460 and 460L customers may complain about a condition where a hesitation or gear engagement bump feeling occurs when accelerating after being stopped in the Drive position for a few seconds. The Transmission Control Module (TCM) logic has been revised to improve this condition.

Applicable Vehicles

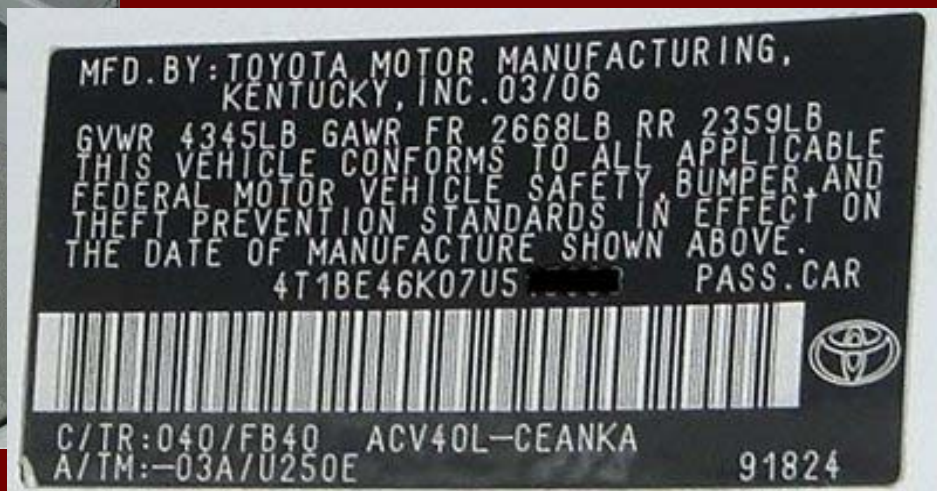
- 2007 model year **LS 460/460L** vehicles produced **BEFORE** the Production Change Effective VIN shown below.

Production Change Information

MODEL	PRODUCTION CHANGE EFFECTIVE VIN
LS 460	JTHBL46F*75046335
LS 460L	JTHGL46F*75019253

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Возможности
перепрограммирования
на примере
Toyota Camry ACV40L ('07MY)



«В начале было слово...»

Vehicle Communications

Vehicle Summary
Manufacturer: Toyota Engine: 2.4L (L4)
Make: Toyota Car VIN:
Model: CAMRY PCM VIN:
Year: 2007 Number: N/A
Owner: Unassigned
Technician:

Data Link Status

EASE Interface Style:
FVI-CAN-USB

OBD II Interface Status
USB: V0000570
Cable Status: Connected
Interface Type: Startup CAN
Variation: 00000
Tool Status: Finding Capabilities

Date and Times
Program Running: 00:16:19 Date: 5/6/2009
Receiving Data: 00:00:07 Current Time: 10:37:08 AM

 Help

 Communications... Start Over...  Reset  Save...  OK  Close

TSB about Reflashing

Сервисный бюллетень (TSB) о необходимости
перепрограммирования блока управления (ECM)
Тойота Камри ACV40L-
для оптимизации режимов переключения А/Т и
повышении плавности её переключения

T-SB-0068-08

May 21, 2008



ECM Calibration: Enhancement to Shifting Performance & Smoothness

Service
Category Engine/Hybrid System

Section Engine Control

Market USA



Reflash J2534

«Калибровка» (Cal. ID) программы управления до перепрограммирования

2007 Camry
2AZ-FE

4T1BE46K07U515038

2007_Camry_2A
File Notes
[-] **Health Check**
Data 1-07.
[+] **Tire Pressure**
[+] **Immobiliser**
[+] **Occupant De**
[+] **SRS Airbag**
[+] **Engine and E**
[+] **Cruise Contr**
[+] **ABS/VSC/TR**
[+] **Air Condition**
[+] **Combination**
[+] **Main Body**

Health Check Results

-Health Check does not display live data
-Changes in vehicle condition will not update automatically
-To update Health Check, click the Refresh button

System	Current	Pending	History	Permanent	Monitor Status	Calibration	Update?
Engine and ECT	0	0	0	-	Inc	33366000	?
Cruise Control	0	-	-	-	-	-	-
Tire Pressure Monitor	0	-	-	-	-	-	-
ABS/VSC/TRAC	0	-	-	-	-	-	-
Immobiliser	0	-	0	-	-	-	-
Occupant Detection	0	-	0	-	-	-	-
SRS Airbag	0	-	0	-	-	-	-
Air Conditioner	0	-	0	-	-	-	-
Combination Meter	0	-	0	-	-	-	-
Main Body	0	-	0	-	-	-	-

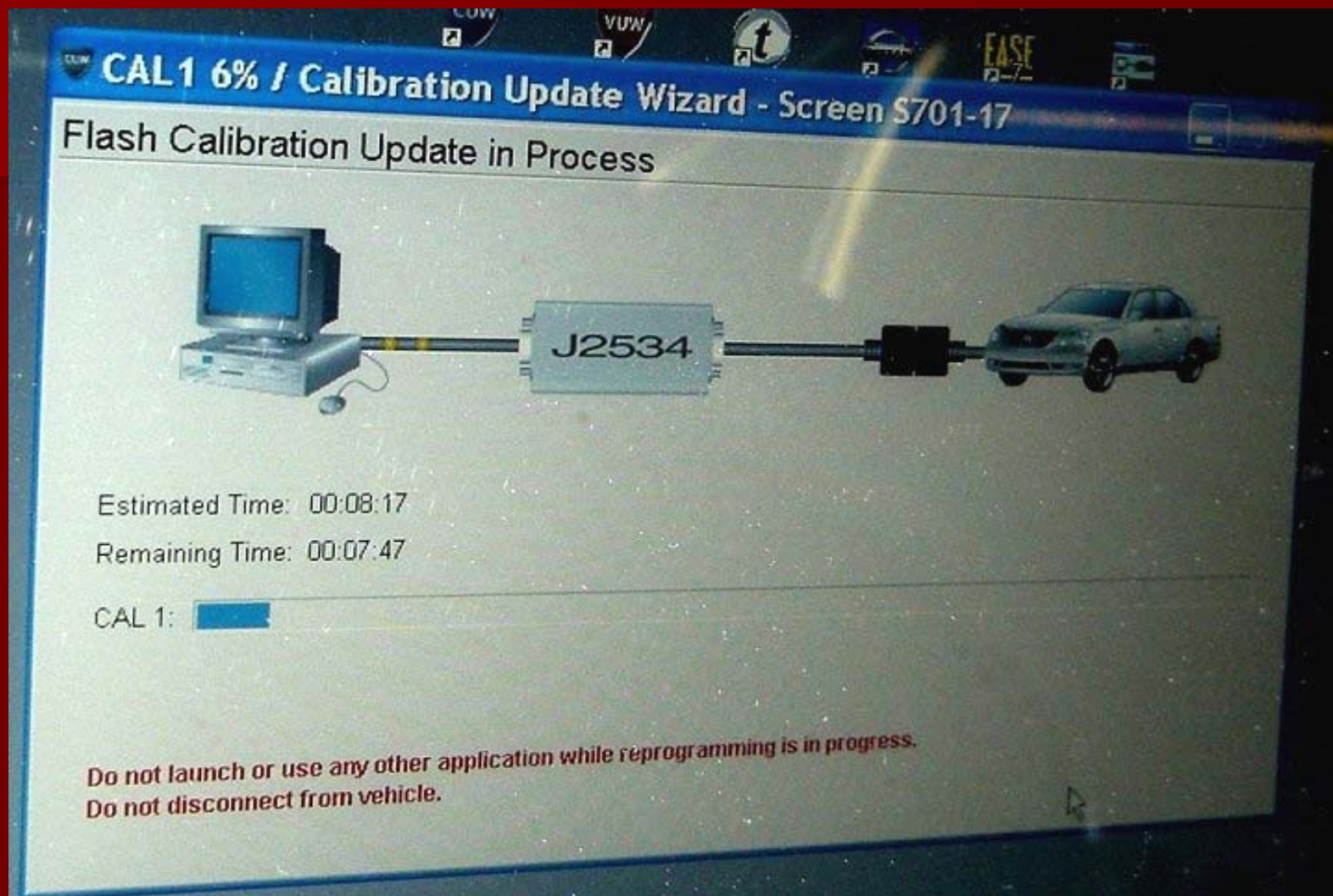
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Номер (Calibtation ID) новой версии ПО

Calibration Information

MODEL YEAR	MODEL	ENGINE	EMISSION SPEC	TRANS	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID	VDS
2007–2009	Camry	2AZ-FE	Federal	5AT	33366000	333A5100	BE46K
					33366100		
					333A5000		
			Calif.		33368000	333A7100	
					33368100		
					333A7000		
2007–2008	Solara	2AZ-FE	Federal	MT	33367000	333A6100	CE30P
					333A6000		
				5AT	30658000	30660100	
					30658100		
					30658200		
					30660000		
5MT	30628000	30628100					
	30657000						
	30657100						

Reflash J2534: - «Процесс пошел!»



Reflash J2534

Проверка «калибровки» (Cal. ID) после перепрограммирования

2007 Camry
2AZ-FE

4T1BE46K07U515038

2007_Camry_2A

File Notes

Health Check
Data 1-07.

+ Tire Pressure
+ Immobiliser
+ Occupant De
+ SRS Airbag
+ Engine and E
+ Cruise Contr
+ ABS/VSC/TR
+ Air Conditi
+ Combination
+ Main Body

Health Check Results

- Health Check does not display live data
- Changes in vehicle condition will not update automatically
- To update Health Check, click the Refresh button

System	Current	Pending	History	Permanent	Monitor Status	Calibration	Update?
Engine and ECT	0	0	0	-	Inc	333A5100	?
Cruise Control	0	-	-	-	-	-	-
Tire Pressure Monitor	0	-	-	-	-	-	-
ABS/VSC/TRAC	0	-	-	-	-	-	-
Immobiliser	0	-	0	-	-	-	-
Occupant Detection	0	-	0	-	-	-	-
SRS Airbag	0	-	0	-	-	-	-
Air Conditioner	0	-	0	-	-	-	-
Combination Meter	0	-	0	-	-	-	-
Main Body	0	-	0	-	-	-	-

Reflash J2534



Иногда, использование возможностей J2534 и реализация TSB – единственный способ устранения неисправности автомобилей!

Использованы материалы уполномоченных сайтов и описания производителей оборудования J2534