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Diagnostic Tool Conventions

Addresses and Functions
Function Descriptions



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- Address then Function
- Control modules have a 2 character address.
- Functions are a 2 character value (most of the time)
- Do not confuse address and functions
- 15 airbag or 15 readiness
- 08 MVB or 08 HVAC



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VCDS: Select Control Module Image Copyright (C) Ross-Tech, LLC

VCDS

Select Control Module

Installed Drivetrain Chassis Comfort/Conv. Electronics 1 Electronics 2 LT3

| | | | |
|-------------------|-----------------------|--------------------|----------------------|
| 01-Engine | 02-Auto Trans | 03-ABS Brakes | 05-Acc/Start Auth. |
| 08-Auto HVAC | 09-Cent. Elect. | 0E-Media Player 1 | 10-Park/Steer Assist |
| 13-Auto Dist. Reg | 15-Airbags | 16-Steering wheel | 17-Instruments |
| 19-CAN Gateway | 28-HVAC, Rear | 36-Seat Mem. Dvr | 3B-Sensor Elect. |
| 3C-Lane Change | 42-Door Elect, Driver | 44-Steering Assist | 46-Central Conv. |
| 47-Sound System | 52-Door Elect, Pass. | 53-Parking Brake | 55-Xenon Range |

Direct Entry
Address Word (01-FF):



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VCDS: 01-Engine, Open Controller Image Copyright (C) Ross-Tech, LLC (06F-90... X)

Comm Status
IC=1 TE=0 RE=0
Protocol: CAN \

VCDS

Open Controller

Controller Info

VAG Number: **4F2 910 115 B** Component: **2.0I R4/4V TFSI 01 0010**

Soft. Coding: **Long Coding** Shop #: **Imp: 768 WSC 02325**

Extra: _____

Extra: **Geraet 00200**

Basic Functions
These are "Safe"

Advanced Functions
Refer to Service Manual!

| | | | |
|---------------------------|---------------------------|-----------------------------|------------------------------|
| <u>F</u> ault Codes - 02 | <u>R</u> eadiness - 15 | <u>L</u> ogin - 11 | <u>C</u> oding - 07 |
| <u>M</u> eas. Blocks - 08 | <u>A</u> dvanced ID - 1A | <u>B</u> asic Settings - 04 | <u>A</u> daptation - 10 |
| <u>S</u> upp. Codes - 18 | <u>A</u> dv. Meas. Values | <u>O</u> utput Tests - 03 | <u>S</u> ecurity Access - 16 |

Close Controller, Go Back - 06



Fault Codes – 02

OBDII Modes 02, 03, 04, 07 and 10 (DTC information)

The screenshot shows the VCDS software interface. The title bar reads "VCDS: 01-Engine, Fault Codes" and "Image Copyright (C) Ross-Tech, LLC". The main window displays the "VCDS Fault Codes" section. On the right, there are two checked options: "Use Aggressive Mode" and "Display Freeze Frame Data".

Controller Info
VAG Number: **4G0 907 551 A** Component: **3.0I V6 TFSI H05 0005**

Fault Codes

7 Faults Found:

- 6515 - Throttle Valve Controller
 - P1545 00 [036] - Malfunction
 - Intermittent - Not Confirmed - Tested Since Memory Clear
 - Freeze Frame:
 - Fault Status: 00000001
 - Fault Priority: 2
 - Fault Frequency: 1
 - Mileage: 543 km
 - Date: 2011.09.23
 - Time: 17:39:51
- 6536 - Throttle Actuator (J338)
 - P1579 00 [036] - Adaptation Not Started

At the bottom, there are five buttons: "Print Codes", "Copy Codes", "Save Codes", "Clear Codes - 05", and "Done, Go Back".



Measuring Blocks - 08 OBDII Modes 01 (Live PID data)

The screenshot shows the VCDS software interface with the following details:

- Window Title: VCDS: 01-Engine, Measuring Blocks / Basic Settings
- Image Copyright: (C) Ross-Tech, LLC...
- Sample Rate: 6.5
- Label File: 06F-907-115-AXX.LBL
- Measuring Blocks: Turbo!

| Group | Up | Go! | Value | Parameter | Value | Parameter | Value | Parameter | | |
|-------|----|-----|-----------|--------------------|---------|------------------------|-------------|----------------------------|-------------|-------------------------|
| 002 | | | 6400 /min | Engine Speed | 100.0 % | Engine Load | 16.4 ms | Injection Timing | 166.53 g/s | Intake Air Mass |
| 106 | | | 106.4 bar | Fuel Rail Pressure | 11.0 % | Electrical Fuel Pump 1 | | Electrical Fuel Pump 2 | 655.35 s | Time |
| 115 | | | 6400 /min | Engine Speed | 100.0 % | Engine Load | 1950.0 mbar | Boost Pressure (specified) | 2050.0 mbar | Boost Pressure (actual) |

Buttons at the bottom: Refer to Service Manual!, Add to Log, Acceleration, Switch To Basic Settings, Done, Go Back, Graph, Log.



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Advance Measuring Values (for UDS) OBDII Modes 01 (Live PID data)

VCDS 01-Engine, Advanced Measuring Values

Sample Rate: 4.6
 Group UDS requests

VCDS

Advanced Measuring Values

Turbo!

| Loc. | Description | Actual |
|-----------|------------------------------------|---------|
| IDE00083 | Throttle valve position (absolute) | 15.7 % |
| ENG101411 | Throttle valve angle | 6.565 ° |

Graph Log Save Done, Go Back

<- Click for Selection Save/L... Clear

| Description | Loc. |
|--|----------|
| <input type="checkbox"/> Voltage terminal 15 | IDE00018 |
| <input type="checkbox"/> Voltage terminal 30 | IDE00019 |
| <input type="checkbox"/> Engine speed | IDE00021 |
| <input type="checkbox"/> Coolant temperature | IDE00025 |
| <input type="checkbox"/> Status of actuator test | IDE00030 |
| <input type="checkbox"/> Vehicle speed | IDE00075 |
| <input type="checkbox"/> Status of initial fuel filling | IDE00076 |
| <input type="checkbox"/> Time since engine start | IDE00078 |
| <input checked="" type="checkbox"/> Throttle valve position (absolute) | IDE00083 |
| <input type="checkbox"/> Absolute load value | IDE00084 |
| <input type="checkbox"/> Normed load value | IDE00085 |
| <input type="checkbox"/> Accelerator position | IDE00086 |
| <input type="checkbox"/> selected gear | IDE00090 |
| <input type="checkbox"/> OBD - requirements for which thi... | IDE00097 |
| <input type="checkbox"/> Control Module temperature | IDE00102 |
| <input type="checkbox"/> Median injection timing | IDE00148 |
| <input type="checkbox"/> Ignition angle of current cylinder: ... | IDE00149 |
| <input type="checkbox"/> Pressure in brake booster | IDE00150 |
| <input type="checkbox"/> Oil fill level | IDE00151 |
| <input type="checkbox"/> Timing angle retardation cylinder 1 | IDE00155 |



Advance Measuring Values (for UDS) OBDII Modes 01 (Live PID data)

VCDS 01-Engine, Advanced Measuring Values

Sample Rate: 4.6
 Group UDS requests

VCDS

Advanced Measuring Values

Turbo!

| Loc. | Description | Actual |
|-----------|------------------------------------|---------|
| IDE00083 | Throttle valve position (absolute) | 15.7 % |
| ENG101411 | Throttle valve angle | 6.565 ° |

Graph Log Save Done, Go Back

VCDS <- Click for Selection Save/L... Clear

throttle

| Description | Loc. |
|--|-----------|
| <input checked="" type="checkbox"/> Throttle valve position (absolute) | IDE00083 |
| <input type="checkbox"/> Throttle valve position: normed | IDE00349 |
| <input type="checkbox"/> Throttle valve: activation | IDE00404 |
| <input type="checkbox"/> Throttle valve specified value | IDE00583 |
| <input type="checkbox"/> Throttle valve adapter: actual value | IDE01377 |
| <input type="checkbox"/> Throttle valve position 1 | IDE01649 |
| <input type="checkbox"/> Throttle valve position 2 | IDE01650 |
| <input type="checkbox"/> Adaptation of throttle valve | IDE01878 |
| <input type="checkbox"/> Adapt of angle sensor 1 f throttle ... | IDE03262 |
| <input type="checkbox"/> Adapt of angle sensor 2 f throttle ... | IDE03263 |
| <input type="checkbox"/> Adaptation of angle sensor 1 thro... | IDE03264 |
| <input type="checkbox"/> Adaptation of angle sensor 2 thro... | IDE03265 |
| <input type="checkbox"/> Mass flow through throttle valve | IDE03711 |
| <input type="checkbox"/> Throttle valve angle: specified val... | IDE03957 |
| <input type="checkbox"/> Pressure before throttle valve: cor... | IDE04412 |
| <input type="checkbox"/> Throttle valve adjuster: adaption s... | ENG99608 |
| <input checked="" type="checkbox"/> Throttle valve angle | ENG101411 |
| <input type="checkbox"/> Throttle valve deviation | ENG102845 |



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Readiness – 15 (ECM only) OBDII Mode 01-01

The screenshot shows two overlapping windows from the VCDS software. The top window, titled "VCDS: 01-Engine, Open Controller", displays communication status (IC=1, TE=0, RE=0, CAN protocol) and controller information (VAG Number: 4F2 910 115 B, Component: 2.0I R4/4V TFSI 01 0010). The bottom window, titled "VCDS: 01-Engine, View Readiness", shows the "Readiness Status" as 0110 0101. Below this, a grid of readiness items is shown with their status: Exhaust Gas Recirculation (Passed), Secondary Air Injection (Passed), Oxygen Sensor Heating (Failed or Incomplete), Evaporative Emissions (Failed or Incomplete), Oxygen Sensor(s) (Failed or Incomplete), Catalyst Heating (Passed), Air Conditioning (Passed), and Catalytic Converter(s) (Failed or Incomplete). Buttons for "Set Readiness", "Save", and "Go Back" are visible at the bottom.

| Item | Status |
|---------------------------|----------------------|
| Exhaust Gas Recirculation | Passed |
| Oxygen Sensor Heating | Failed or Incomplete |
| Oxygen Sensor(s) | Failed or Incomplete |
| Air Conditioning | Passed |
| Secondary Air Injection | Passed |
| Evaporative Emissions | Failed or Incomplete |
| Catalyst Heating | Passed |
| Catalytic Converter(s) | Failed or Incomplete |



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Basic Settings - 04 OBDII Mode 06

VCDS: 01-Engine, Measuring Blocks / Basic Settings Image Copyright (C) Ross-Tech, LLC... X

VCDS

Sample Rate: |

Label File: 03L-906-022-CBE.CLB **Basic Settings: OFF**

Group Fuel Supply Pump Activation

| | | | | | | |
|-------|--|------------------------------------|--|---------------------------------------|--|---|
| 035 | <input type="button" value="Up"/> <input type="button" value="Dn"/> | <input type="button" value="Go!"/> | 828 /min Engine Speed (G28) | 13.76 V Fuel Pump Status | 28.8°C Fuel Temperature (G81) | 54.0°C Coolant Temperature (G62) |
| Group | <input type="button" value="Up"/> <input type="button" value="Dn"/> | <input type="button" value="Go!"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Fuel Supply Pump Activation

**Prerequisites: Ignition ON / Engine OFF / Test Duration ca. 30 Seconds
Required after Repairs where the Fuel System was drained. After extensive
Repairs such as Injector Replacement and/or Fuel System Flushing this Process
should be repeated at least 3 Times. There must be NO open Fuel Supply Lines!**



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Adaptation – 10
Long Adaptation -0A

VCDS: 01-Engine, Open Controller
Image Copyright (C) Ross-Tech, LLC (07C-9...)

Comm Status
IC=1 TE=0 RE=0
Protocol: CAN

VCDS

Open Controller

VCDS: 01-Engine, Adaptation
Image Copyright (C) Ross-Tech, LLC

Idle Speed Adjustment

900 /min 920 /min A/C-Low Compr.OFF
RPM RPM

Channel: 01 Up Read Add to Log
Dn

Stored value: 131

New value: 131 Up Down

Test value: []

Test Save Done, Go Back

Engine Idle Speed

With engine running at idle
To see the change in actual RPM. When desired value is reached
The ECU may only allow a narrow range of possible values.

non-UDS

VCDS Release 17.1.3: 17-Instruments, Open Controller (5K0-920-XXX-17.CLB)

Comm Status
Latency=3 ms
Protocol: UDS

VCDS

Open Controller

Controller Info

VAG Number: 5C6 920 950 D Component: KOMBİ H07 0406

Soft. Coding: Long Coding Shop #: Imo: 123 WSC: 07437

VCDS Release 17.1.3: 17-Instruments, UDS Adaptation

Channel: IDE00342-ESI: Resetting ESI

Stored value: Reset Search: ESI Clear

New value: Reset

WorkShop Code (0-99999): 07437 Importer # (0-999): 123 Equipment # 04130

Soft reset Do It! Go Back Add to Log

UDS



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Output Test- 03 OBDII Mode 08



VCDS Beta 17.6.0: 01-Engine, Open Controller (06A-906-018-AEG.LBL)

Comm Status
Latency=2 ms
Protocol: KW1281

VCDS
Open Controller

Controller Info
VAG Number: **06A 906 018 JJ** Component: **2.0l R4/2V MOTR AT V01**
Soft. Coding: **00033** Shop #: **WSC 08230**
Extra:

VCDS Beta 17.6.0: 01-Engine, Output Tests

Activated Output:
Secondary Air Injection Pump Relay (J299)

Sequential Output Tests Selective Output Tests

Start / Next Done, Go Back

non-UDS

VCDS Release 17.1.3: 01-Engine, Open Controller (MED 17.5.21 / 06K-907-425-V1.CLB)

Comm Status
Protocol: UDS
Controller Info
VAG Number: **5G0 906 259 L** Component: **2.0l R4 TFSI H13 0002**
Soft. Coding: **Long Coding** Shop #: **Imp: 790 WSC 00066**
Extra:

VCDS Release 17.1.3: 01-Engine, Output Tests

Secondary air injection pump relay
Running

Sequential Output Tests Selective Output Tests
Action: On Off
Command time: Unlimited 30 secs

Measuring Values Stop Done, Go Back

UDS



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Login -11, Coding II – 11, or Security Access -
16

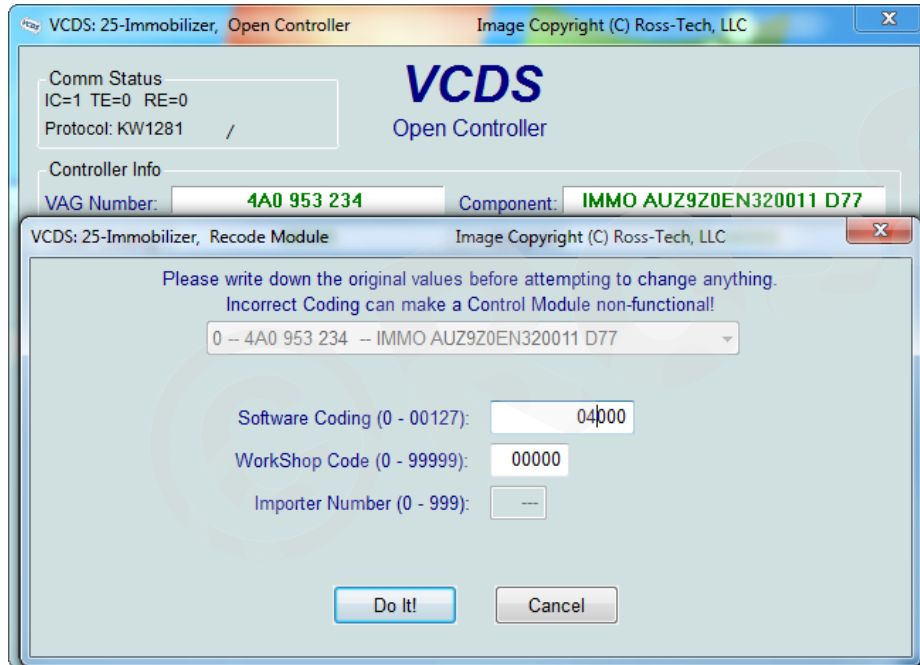
The screenshot shows the VCDS Beta 17.6.0 interface. The main window, titled "VCDS Beta 17.6.0: 01-Engine, Open Controller (06A-906-018-AEG.LBL)", displays connection status (Comm Status: Latency=3 ms, Protocol: KW1281) and controller information (VAG Number: 06A 906 018 JJ, Component: 2.0I R4/2V MOTR AT V01, Soft. Coding: 00033, Shop #: WSC 08230). A "Login" dialog box is overlaid on top, titled "VCDS Beta 17.6.0: 01-Engine, Login". The dialog contains a message: "Many Controller functions are protected. If the correct Code is entered, you will have access to all functions. If the code is wrong, you will have to wait for two before trying again. Please enter the correct Code!". Below the message is a text input field labeled "Enter Code (0 - 65535):" with the value "00000" entered. To the right of the input field is a button labeled "Use 7-digit PIN/SKC". At the bottom of the dialog are two buttons: "Do It!" and "Cancel". A yellow information bubble is also present, pointing to the code input field, with the text "Engine (J220) Coding-2" and "01283 = Coding Enabling".



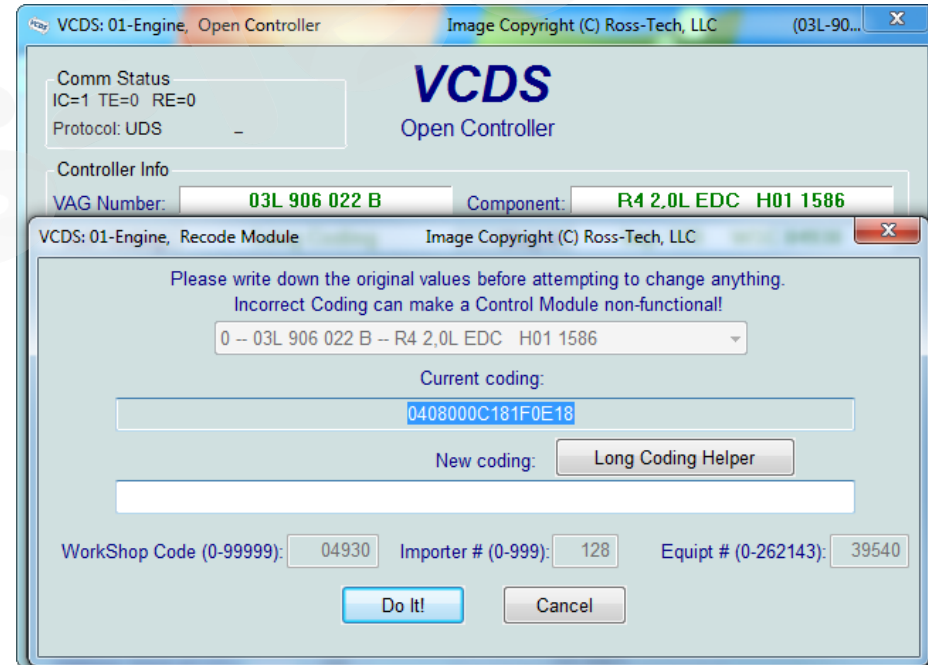
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Coding - 07



Short Coding



Long Coding



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VCDS: Auto Scan Image Copyright (C) Ross-Tech, LLC

Note: Chassis Types can be modified by editing the [MyAutoScan.TXT](#) file

Select Chassis Type:
8E - Audi A4/S4/RS4 B6/t

UDS aggressive mode
 Display freeze frame

Start Stop

Gateway Installation List
 Auto Refresh

Clear all DTCs

Results
Copy Print
Save Clear

Close

Chassis Type: 4F (8E - Audi A4/S4/RS4 B6/B7 (2001 > 2008))
Scan: 01 02 03 08 09 0F 11 15 16 17 18 25 36 37 45 46 55 56 57 65 67 69 75 76 77

VIN: WAUZZZ4F36N111022 Mileage: 640km-397miles

Address 01: Engine Labels: 06F-907-115-AXX.tbl
Part No SW: 4F2 910 115 B HW: 4F2 907 115
Component: 2.0l R4/4V TFSI 01 0010
Revision: --H11-- Serial number:
Coding: 0105000318030018
Shop #: WSC 02325 768 00200
VCID: 1F46FC54CEAED0C7E0-804A

20 Faults Found:
012361 - Control Circuit for Starter Relay 2
P3049 - 004 - Open Circuit

Freeze Frame:
Fault Status: 01100100
Fault Priority: 0
Fault Frequency: 1
Reset counter: 255
Mileage: 0 km
Time Indication: 0

Auto-Scan

VCDS: SRI Reset Image Copyright (C) Ross-Tech, LLC

Operation
Please select an operation
Service Reset
Change to Fixed Intervals (Kilometers)
Change to Flexible Intervals (Kilometers), Diesel
Change to Flexible Intervals (Kilometers), Gasoline
Change to Fixed Intervals (Miles)
Change to Flexible Intervals (Miles), Diesel
Change to Flexible Intervals (Miles), Gasoline

| Ch | Operation | Unit | Value | ... |
|----|-------------------------|------------|-------|-----|
| 02 | Service Reminder Status | | 0 | --- |
| 40 | Mileage since Service | miles x100 | 11 | --- |
| 41 | Time since Service | Days | 257 | --- |
| 42 | Min Mileage to Service | miles x100 | 100 | --- |
| 43 | Max Mileage to Service | miles x100 | 100 | --- |
| 44 | Max Time to Service | Days | 365 | --- |
| 45 | Oil Quality | | 1 | --- |
| 47 | Soot Quantity | km x100 | 0 | --- |
| 48 | Thermal Load | km x100 | 76 | --- |
| 49 | Min Time to Service | Days | 365 | --- |

Save to logfile Perform SRI Done, Go Back

SRI Resetting