

ISTA as Shop Manual

Viewing ISTA Documents

I. Scope; Contents of Tutorial:

ISTA Used as a Shop Manual to View: Repair Procedures (REP); Wiring Diagrams, Interactive (SSP); Functional Descriptions of HOW Systems work (FUB); Torque Specs (AZD); Fluid Specs (SBS); and more.

Functions NOT Connected to Vehicle: can use Desktop or Laptop w/o cable connection to vehicle

How to Open ISTA: Select Vehicle by VIN-7 or Basic Features, & Begin Search

19 Types of Documents: how to use Filter, to View selected Types of Documents.

Text Search: HOW to use to find Documents/ Content

Find Repair Instructions (REP): (A)Text Search; (B) Product Structure (Drill Down)

How to find Electrical Wiring Diagrams (SSP)

Component Locations & Connector Views: (Pin Identification) in SSP Documents

Symbols & Conventions: used in Wiring Diagrams

Functional Description: See HOW Systems work

ISTA Help: click [?] in Symbol bar @ top of screen; 52-page pdf loads. See p.48 for Task/Symbol Bar button functions. ISTA Help describes FULL workshop system @ Dealership, NOT stand-alone computer use.

II. (A) Open ISTA; (B) Select Vehicle; (C) Begin Text Search:

ISTA can be used WITHOUT being connected to vehicle to search and view Documents:

(A) Open ISTA: Click Operations Menu Button, Top-Left of screen

(B1) Select Vehicle, Specific VIN: Enter Last-7 Characters of vehicle VIN in Input VIN box:

The screenshot shows the ISTA+ software interface. At the top, there is a toolbar with various icons. Below the toolbar is a navigation menu with the following tabs: Operations, Vehicle information, Vehicle management, Service plan, Favourites, Workshop/Operating fluids, and Measuring devices. The 'Operations' tab is currently selected. Underneath the navigation menu, there are two sub-tabs: 'New' and 'Finished'. The 'New' sub-tab is selected, and it contains two buttons: 'Read Out Vehicle Data' and 'Basic Features'. The main area of the screen is a large white box with a thin border. Inside this box, there is a label 'Input VIN:' followed by a text input field containing the text 'FZ36567'. At the bottom left of the main area, there is a 'Keyboard' button, and at the bottom right, there is an 'Accept' button.

Press Enter or click Accept; 'Vehicle Information > **Vehicle Details**' Screen Appears (~ 20 seconds):

ISTA+ [Icons]

VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/U/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Vehicle details		Repair history	Control unit tree	Control unit list	Operations report	Information by service cases

VIN XXXVT83XXFZ36567 Mileage: 0 Drive type AWD Production date ⚠ 01/03/2007 Body Sports Wagon First registration - Basic version US <u>Technical actions:</u> ⚠ State Special defect code Title Breakdown: <input type="radio"/> Yes <input checked="" type="radio"/> No Retrofit Optional equipment	Series 3' Engine N52 Engine label N52B30M1 Construction date: 2007 / 03 Steering LL Engine number ⚠ Upholstery code -	Development code: E91 E-Engine - E-Engine label - I-Level factory: - Model code VT83 Gearbox number ⚠ - Paint code -	Sales designation: 328xi Gearbox AUTO I-Level actual: - Last used program version: ⚠ Programing data -- Type approval no.: ⚠ -
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Display measures plan
Write service history
Start vehicle test
Information search

NOTE: Vehicle Identification appears in line beneath ISTA+ Symbol Bar/Tool Bar, at Top of Screen.

(B2) Select Vehicle 'Basic Features' (If Don't Know VIN), Enter: Series/Chassis/Model/Engine, etc:

ISTA+ [Icons]

VIN Vehicle

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
New	Finished					

VIN	Read Out Vehicle Data	Basic Features
-----	-----------------------	-----------------------

Basic features	Model series	Selected basic features
Model series	1'	Model series
Development code	2'	Development code
Body	3'	Body
Sales designation	4'	Sales designation
Engine	5'	Engine
Electrical machine	6'	Electrical machine
Basic version	7'	Basic version
Steering	8'	Steering
Transmission	1'	Transmission
Model year	MINI	Model year
Model month	Rolls-Royce	Model month
	X'	
	Z'	

Undo all
Undo
Accept

Note: Menu, Submenu & Tab buttons selected are Blue-Green Color in ScreenPrints

(C) **Begin Text Search:** Click ‘Vehicle management’ menu button, & either (1) ‘Troubleshooting’ or (2) ‘Repair/ Maintenance’ Submenu button, and then ‘Text Search’ Tab. ‘Search string’ box appears:

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Repair/ Maintenance	Troubleshooting	Service functions	Software update	Control Unit Replacement	Vehicle modification	
Fault memory	SFC component	SFC function	Function Structure	Component Structure	Text Search	Input fault code

Search string:

Search in structures
 Search in document title
 Search in document
 Search for the document number

Filter: Default

Keyboard Filter Start search

III. 19 Document Types & Filter Button:

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Filter settings

Last change date (MM.DD.YYYY):

Time period from: Time period to:

Information types:

- Vehicle Technical Diagnosis (FTD)
- Function changes to vehicle (KFA)
- Service Information Technology (SIT)
- Mobile Service (MSM)
- Wiring Diagram (SSP)
- Procedure (ABL)
- Functional Description (FUB)
- Fault Elimination (FEB)
- Overview (COM)
- Repair instructions (REH)
- Connector view (STA)
- Technical Data (TED)
- Installation Location (EBO)
- Vehicle software information (SPI)
- Pin Assignment (PIB)
- Tightening Torque (AZD)
- Special Tool (SWZ)
- Repair Instructions (REP)
- Operating fluids (SBS)

Filter: Default

Keyboard Cancel Default settings Select all Select nothing Accept Start search

Screen Above: shows ‘Default settings’ for Filter: 18 Document types. ALL BUT Special Tool (SWZ).

Click Filter Button: to filter for FEWER Document Types. Filtering results in faster searches & fewer ‘Hits’.
To select only ONE TYPE, such as REP, click ‘Select nothing’ button and then click the box on Repair Instructions (REP) line. Or you can select ONLY (SSP) & (PIB) for electrical diagrams & Pinouts.

Check ONLY ‘Search in Document Title’: for fastest search (may be less complete); Note that there are Four types of searches you can check under the Search String box. You can experiment to see what suits YOU best. You can Cancel a SLOW search process by clicking the [X] at top-right of box and clicking ‘Yes’.

IV. Repair Instructions (REP):

- Filter for (REP) ONLY; Select ‘Search in structures’ & ‘Search in document title’
- Search “removing x”, where “x” is general term such as: fan, exhaust, disc, handbrake, filter, glovebox
- Title of many Procedures begins with: “Removing and installing / replacing”, so entering “removing filter” gets 12 ‘Hits’: everything beginning with “Removing” and containing the word “filter”

A. Text Search:

Filter: (REP) only; Search in structures; Search in document title; Search string: “removing filter”:

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/U/S/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Repair/ Maintenance	Troubleshooting	Service functions	Software update	Control Unit Replacement	Vehicle modification	
Fault memory	SFC component	SFC function	Function Structure	Component Structure	Text Search	Input fault code

Search string:
removing filter

Search in structures
 Search in document title
 Search in document
 Search for the document number

Filter: User-defined

Keyboard Filter Start search

Press Enter Key: with cursor in search string box (after typing), or click ‘Start search’ button, bottom-right

12 Hits: in ‘Hit List’ for that search are shown on next screen.

Double-click: any document line to view that Document. Note: ‘Hit list’ is under ‘Service plan’ Menu button. Search terms “removing filter” appears.

NOTE Document History Icon: in Task/Symbol Bar, between Left/Right arrows. After you have opened multiple documents, you can toggle between opened documents with those two arrows or click Doc History button & Select desired document to view

ISTA+

VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices	
Hit list	Test plan	Programming plan					

Flat Rate No	Type	Title	State
Searching for "removing filter"			
1614016	REP	Removing and installing / replacing fuel filter with pressure regulator	<input type="checkbox"/>
6431092	REP	Removing and installing the microfilter housing (lower section) \PREMIUM	<input type="checkbox"/>
6431081	REP	Removing and installing the microfilter housing (upper section) \PREMIUM	<input type="checkbox"/>
1614060	REP	Removing and installing/replacing dust filter for tank leak diagnosis module (DMTL)	<input type="checkbox"/>
1142020	REP	Removing and installing/replacing full-flow oil filter (N52)	<input type="checkbox"/>
1371000	REP	Removing and installing/replacing intake filter housing (N52/ N52K/ N53)	<input type="checkbox"/>
6431092	REP	Removing and installing/replacing microfilter housing (lower section)	<input type="checkbox"/>
6431081	REP	Removing and installing/replacing microfilter housing (upper section)	<input type="checkbox"/>
2411665	REP	Removing and installing/replacing transmission oil filter (GA6L45R)	<input type="checkbox"/>
2411666	REP	Removing and installing/replacing transmission oil filter gasket (GA6L45R)	<input type="checkbox"/>
1614070	REP	Removing and installing/replacing vent hose with strainer for carbon canister	<input type="checkbox"/>
5410...	REP	Removing and installing/replacing water drain channel strainer on left and right	<input type="checkbox"/>

Hits: 12 / 12 Filter: User-defined not called performed minimized canceled suspected

Back
Filters
Show completely
Display

B. Product Structure, Drill-Down Manual Search:

Vehicle Management Menu button > Repair/Maint Submenu > Product Structure Tab; Screen 1 shown; there are 3 more screens. Systems numbered same as RealOEM.com & Bentley: 11 Engine, 13 Fuel system, etc.

ISTA+

VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices	
Repair/ Maintenance	Troubleshooting	Service functions	Software update	Control Unit Replacement	Vehicle modification		
Product Structure	Text Search						

Main groups	Selected structure elements
0 Maintenance and general data	
11 Engine	
12 Engine electrical system	
13 fuel system	
16 Fuel supply	
17 cooling system	
18 Exhaust system	
21 clutch	
22 Engine and gearbox suspension	
23 Manual transmission	
24 Automatic transmission	
25 Gearshift	

Hits: Filter: User-defined

Undo all
Undo
Filters
Start search

Example: View Procedure for Transmission Filter Remove/Replace on GM6 AT (GA6L45R)
Product Structure/ Main groups (shown above): Select/ Click ‘24 Automatic transmission’
Following Screen Appears:

ISTA+

 VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices	
Repair/ Maintenance	Troubleshooting	Service functions	Software update	Control Unit Replacement	Vehicle modification		

Product Structure Text Search

Subgroup	Selected structure elements
2400 Transmission in general	Main group: 24 Automatic transmission Subgroup: 2411 transmission case, oil sump
2411 transmission case, oil sump	
2412 torque converter bearing, seal	
2413 extension housing, bearings, seal	
2414 Mechanical attachments	
2415 Electrical add-on parts	
2421 Drive/intermediate/output shafts	
2422 Planetary drive	
2423 Release clutches	
2427 Seal sets	
2430 Hydr/el control components/elements	
2431 Oil pump	

Hits: Filter: User-defined

Undo all
Undo
Filters
Start search

Select ‘2411 transmission case, oil sump’ and click Start search button, bottom-right of screen:

ISTA+

 VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices	
Hit list	Test plan	Programming plan					

Flat Rate No	Type	Title	State
2411 transmission case, oil sump			
0011...	REP	Information for handling the documents: repair instructions, technical data, AZD	<input type="checkbox"/>
2411665	REP	Removing and installing/replacing transmission oil filter (GA6L45R)	<input type="checkbox"/>
2411666	REP	Removing and installing/replacing transmission oil filter gasket (GA6L45R)	<input checked="" type="checkbox"/>
2411011	REP	Removing and installing/sealing or replacing transmission oil sump (GA6HP19Z)	<input type="checkbox"/>
2411013	REP	Removing and installing/sealing or replacing transmission oil sump (GA6L45R)	<input type="checkbox"/>
2411007	REP	Replacing sealing plug (GA6L45R)	<input type="checkbox"/>


Hits: 6 / 270 Filter: User-defined

Back
Filters
Show completely


 not called
 performed
 minimized
 canceled
 suspected

Display


Double-Click Removing...transmission oil filter (GA6L45R): to view REP Repair Instructions:


ISTA+ 

VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

REP-REP-RAE9224-2411665 - Removing and installing/replacing transmission oil filter (GA6L45R) 

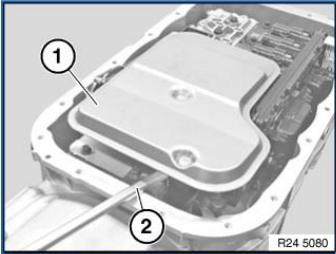
24 11 665 Removing and installing/replacing transmission oil filter (GA6L45R)

 **Important!**
After completion of work, check [transmission fluid level](#).
Use only approved [transmission oil](#).
Failure to comply with this instruction will result in serious damage to the transmission.

 **Necessary preliminary tasks:**

- Remove [transmission fluid sump](#)

Remove transmission oil filter (1) with a suitable tool (2).
Installation:
Replace [oil filter gasket](#).



Close

NOTE: ‘Necessary preliminary tasks’ are linked (just click link to view); in this case ‘Remove transmission fluid sump’; other links provide procedures for replacing gasket, checking fluid level & Oil Type/ Spec.

Navigate: between pages using Left/Right Arrows either side of Document History, Icon Bar at top of screen.

Text Search: is faster than Product Structure “Drill-Down” approach **IF** you know the right search terms to use. Using Product Structure may be less daunting at first UNTIL you learn what TERMS to use, and depending how often/ how much you use ISTA.

Product Structure: approach helps you find the correct system/ group to search when you don’t know exactly what you’re looking for, and/or its “technical name” as used in ISTA.

Requesting & Providing Search Terms: is encouraged, to increase the ISTA knowledge base on the Forums.

V. Find Electrical Diagrams, Component Locations, Connector Views, Pinouts:

Filter: SSP (wiring diagram) & PIB (Pinout) ONLY selected

Search in document title: selected ONLY

Search string Entry: may need to use term in Parenthesis instead of abbreviation

(1) **Search by Module abbreviation:** ASK, CAS, DME, DSC, EGS (“transmission control”), EKPS (“fuel pump”), FAS (seat module); FRM, FZD (roof), JB (A4010), JBE (A4010a), KOMBI, MOST, MRS, RDC SHD (roof), ULF, VTG

(2) **Search by System/Subsystem:** DME: air supply, engine cooling, fuel, ignition, valve gear; IHKA: heating functions; FRM: window inputs, window outputs; interior lights; side light, beam (low/ high), brake, reversing, mirror; CAS: locking inputs, locking drives, remote control; BSD (interface); radio; alternator

Each subsystem: named above has a separate wiring diagram. The trick is to know (correctly guess ;-) what the “Title” of the Subsystem Diagram is. “Reversing” works – “backup” = NO Hits.

Also helps: to know what components are connected to/ INPUTS to/ controlled by a particular Module. The “Overview” button at bottom of screen opens box identifying Components, Lines, Connectors, Fuses.

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03
 STA-STA-E90_SX329B - X329

Wiring Diagram Installation Location Connector view

Documents Zoom in Zoom out Overview Full Screen Close

Lighting Bulb/Connector Access: As described in IV(A) Repair Instructions (REP), Text Search above: Enter “bulb” in search string; (REP) Filter ONLY; select only ‘Search in document title’: yields ‘Hit list’ (24 hits):

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices	
Hit list	Test plan	Programming plan					

Flat Rate No	Type	Title	State
6399273	REP	Replacing bulb for left (or right) front turn indicator	<input type="checkbox"/>
6399076	REP	Replacing bulb for left (or right) xenon headlight (with ignition unit)	<input type="checkbox"/>
6399401	REP	Replacing bulb for left or right number plate light	<input type="checkbox"/>
6399432	REP	Replacing bulb for rear ceiling light	<input type="checkbox"/>
6399445	REP	Replacing bulb(s) for mirror light	<input type="checkbox"/>
6399072	REP	Replacing halogen bulb for left (or right) headlight	<input type="checkbox"/>
6399002	REP	Replacing halogen bulb for left (or right) high-beam headlight	<input type="checkbox"/>
6399004	REP	Replacing halogen bulb for left (or right) high-beam headlight (with xenon lamp)	<input type="checkbox"/>
6399201	REP	Replacing halogen bulb for left or right front fog lamp	<input type="checkbox"/>
6312870	REP	Replacing ignition unit for left xenon headlight (with xenon bulb)	<input type="checkbox"/>
6399435	REP	Replacing light bulb for left or right interior light	<input type="checkbox"/>
6399452	REP	Replacing light bulb for luggage compartment light (on tailgate)	<input type="checkbox"/>
6399315	REP	Replacing light bulb(s) for left or right rear light	<input type="checkbox"/>

Hits: 24 / 28 Filter: User-defined not called performed minimized canceled suspected

Back Filters Show completely Display

Combining REP Instructions with SSP wiring diagrams, Component Locations & Connector Views gives you everything you need to test lighting / other electrical components (EXCEPT a Multimeter ;-)

As example, if you click on ‘REP Replacing light bulbs(s) for left or right rear light’ (last entry, hi-lighted above) you will get the following screen; NOTE: the ‘Necessary preliminary tasks’: Remove socket housing...

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03
 REP-REP-RAE9163-6399315 - Replacing light bulb(s) for left or right rear light

Necessary preliminary tasks:

- Remove [socket housing for rear light](#)

Rear light in side panel:
 Turn faulty bulb and pull out of socket housing for rear light (5).

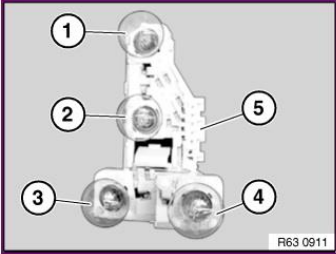
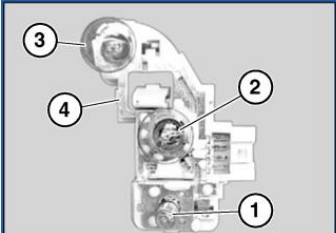
Note:

- Bulb, turn indicator light
- Bulb, rear light
- Bulb, brake light
- Bulb, adaptive brake light

Rear light in rear lid:
 Turn faulty bulb and pull out of socket housing for rear light (4).

Note:

- Bulb, rear fog light
- Bulb, rear light
- Bulb, reversing light

Close

Note ‘bulb type’: link (NOT shown) for bulb chart so you know what Type & Wattage bulb is required

ISTA+ VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03
 TED-TED-TDMUC6321-05B1S2 - Rear light unit

63 21 Rear light unit E91

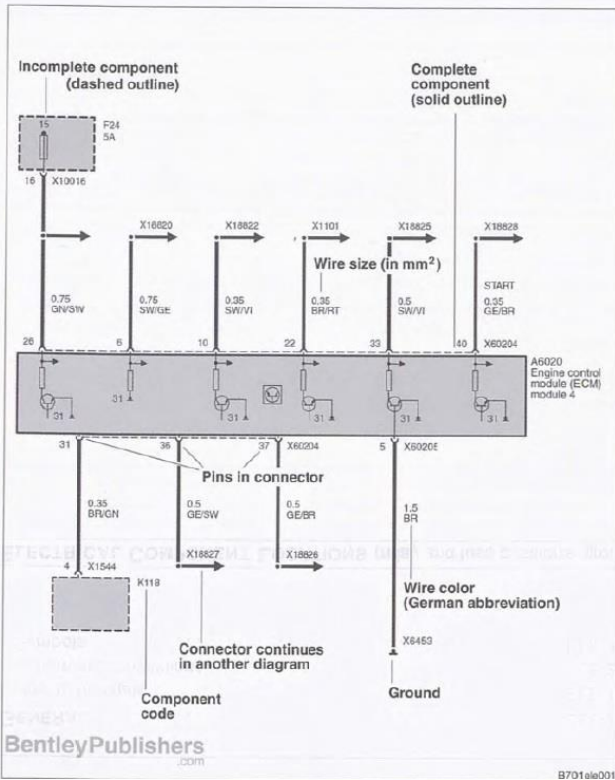
Light bulb - tail light in side panel	Type	P21W 12V 21W
Light bulb - tail light in rear lid	Type	P21W 12V 21W
Bulb - rear fog light/adaptive brake light (US)	Type	H21W 12V 21W
Light bulb - backup light	Type	P21W 12V 21W
Light bulb - turn signal	Type	P21W 12V 21W
Bulb - brake light 1	Type	P21W 12V 21W
Bulb - brake light 2/adaptive brake light (ECE)	Type	P21W 12V 21W
Light bulb - 3rd brake light	Type	26 LEDs
Turn indicator from build date 09/2008	Type	LED

Close

Screens shown are for my 3/2007 build E91 Wagon; Your screens may vary

VI. Conventions & Symbols Used in ISTA SSP Wiring Diagrams:

Bentley Manual: pages ELE-2 & ELE-3, provide following Conventions & Symbols, ISTA SSP Documents:

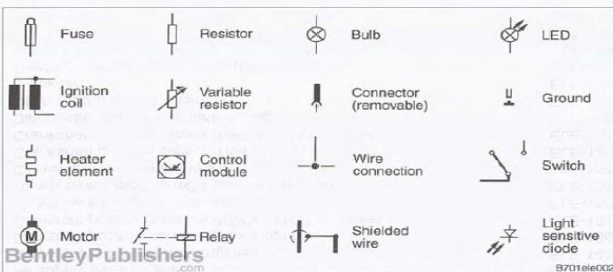


Schematic conventions

The schematics (wiring diagrams) divide the vehicle electrical system into individual circuits. Interacting electrical components are shown on one schematic.

Electrical components are represented in such a way that their general layout and function are self-explanatory. They are usually arranged in the diagrams so that the current path can be followed from positive at the top to negative at the bottom.

- If a schematic spans several pages, this fact is clearly indicated at the top of each page.
- A component (or connector) which is completely represented in the schematic is shown as a solid box.
- A component (or connector) which has other connectors in addition to the ones shown in the schematic is shown with a dashed line.
- Switches and relays are always shown in rest position (generally OFF).



Symbols

The schematics utilize simplified electrical symbols.

Wiring color code	
BL	= blue
BR	= brown
GE	= yellow
GN	= green
GR	= grey
RT	= red
SW	= black
WS	= white
VI	= violet

Wire insulation colors in this section are given with German color abbreviations.

Wire sizes follow the DIN (European) convention.

Example: 0.5 wire is 1/2 mm² in cross-section area. This corresponds to approx. SAE 16 gauge wire.

BMW identifies many electrical circuits with unique designations which follow the DIN standard. Also, BMW designates electrical components, junctions and grounds with a unique alphanumeric designation, most of which also follow the DIN standard.

NOTE: wire size appears in mm-squared cross-section area, just above Abbreviation for wire color. Small number above fuse symbol (15 above F24 symbol in Conventions example) is KL15 or ignition-switched power supply. KL87 is DME Main Relay; KL30G is Accessory Relay; KL30 is UN-switched Battery power.

Wire Size Links, American Wire Gauge (AWG) to mm-squared cross-section area:

https://www.engineeringtoolbox.com/awg-wire-gauge-d_731.html

https://www.wirebarn.com/Wire-Calculator-_ep_41.html

VII. How Systems Work: Functional Descriptions (FUB) & FTD: Vehicle Tech Diagnosis:

Filter: If you ONLY want to see FUB Functional Descriptions of how a system works, and/or FTD (Vehicle Technical Diagnosis),, select those two types in Filter and “Search in Document Title” ONLY.

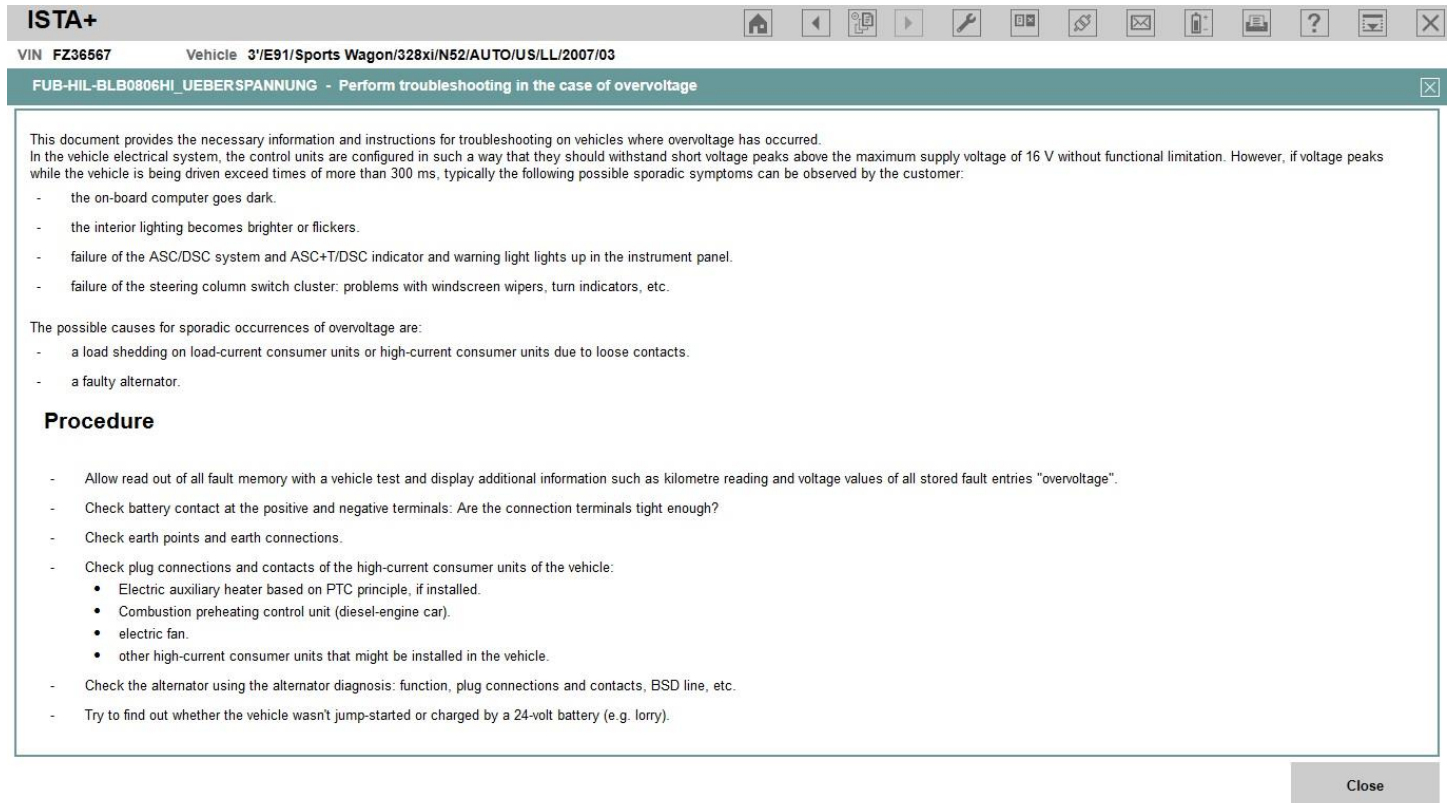
Modules: ASK, CAS, DSC, FRM, FZD, JBE, KOMBI, MOST, MRS, RDC SHD, ULF, VTG: simply enter the Module Abbreviation as listed here, and you will get Functional Description

Systems: Battery, Brake, Cool, Fuel, Heat, etc.

Components: Some components, such as Fan, IBS, EKP; you can even use a general term like “sensor” and get 47 hits, or “pump”, 12 hits.

Conditions: some conditions, such as Overvoltage, or tank leak.

Example of FUB: Overvoltage, or Voltage > 16V with Engine Running/ Alternator charging:



The screenshot shows the ISTA+ software interface. At the top, the title bar reads 'ISTA+' and the status bar shows 'VIN FZ36567 Vehicle 3/E91/Sports Wagon/328xi/N52/AUTO/US/LL/2007/03'. The main window title is 'FUB-HIL-BLB0806HI_UEBERSpannung - Perform troubleshooting in the case of overvoltage'. The document content includes:

This document provides the necessary information and instructions for troubleshooting on vehicles where overvoltage has occurred. In the vehicle electrical system, the control units are configured in such a way that they should withstand short voltage peaks above the maximum supply voltage of 16 V without functional limitation. However, if voltage peaks while the vehicle is being driven exceed times of more than 300 ms, typically the following possible sporadic symptoms can be observed by the customer:

- the on-board computer goes dark.
- the interior lighting becomes brighter or flickers.
- failure of the ASC/DSC system and ASC+T/DSC indicator and warning light lights up in the instrument panel.
- failure of the steering column switch cluster: problems with windscreen wipers, turn indicators, etc.

The possible causes for sporadic occurrences of overvoltage are:

- a load shedding on load-current consumer units or high-current consumer units due to loose contacts.
- a faulty alternator.

Procedure

- Allow read out of all fault memory with a vehicle test and display additional information such as kilometre reading and voltage values of all stored fault entries "overvoltage".
- Check battery contact at the positive and negative terminals: Are the connection terminals tight enough?
- Check earth points and earth connections.
- Check plug connections and contacts of the high-current consumer units of the vehicle:
 - Electric auxiliary heater based on PTC principle, if installed.
 - Combustion preheating control unit (diesel-engine car).
 - electric fan.
 - other high-current consumer units that might be installed in the vehicle.
- Check the alternator using the alternator diagnosis: function, plug connections and contacts, BSD line, etc.
- Try to find out whether the vehicle wasn't jump-started or charged by a 24-volt battery (e.g. lorry).

Close

A. Check Control: CC-ID Codes & Procedure:

Filter: Select FTD or FUB ONLY; check ‘Search in document title’ ONLY

Search FTD: “Diagnosis on instrument cluster”; See Check Control Procedure & first 450 CC-ID Definitions.

Search FUB: “Check Control message”; See ALL CC-ID Definitions through CC-ID #965

Sharing Information:

Forum Members are encouraged to share their “Discoveries” of helpful ways to Find or Use ISTA Documents of all types. Any suggestions or questions should be posted to the Thread where this pdf is linked. George