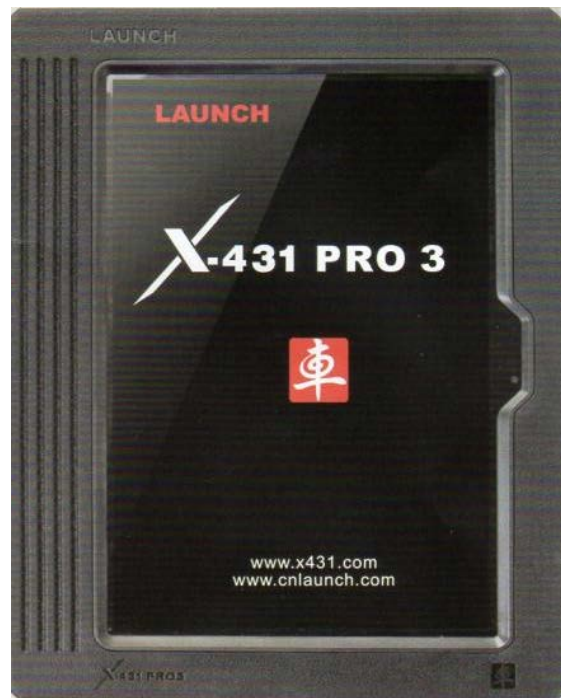


LAUNCH **X-431** *PRO Scanner*



World's Leading Automotive Diagnostic Computer

X-431 PAD II, PRO & PRO 3 USER'S GUIDE

NOTE:

While all information supplied in this document is believed to be true and correct at the time of publication Auto Stress Relief Pty Ltd and Launch Tech Victoria accept no responsibility for any errors or omissions contained herein.

X-431 BASIC START UP & SERVICE HINTS

DON'T LEAVE THE X-431 DIAGUN IN DIRECT SUNLIGHT

VEHICLE CONNECTORS

- The X-431 DBS Plug draws its communications power on most late model vehicles direct from the vehicle's diagnostic plug
- Check if the red led is lit – Just because the desktop is working, does not mean the X431 is communicating with the connector on vehicle.
- On some earlier model vehicles separate battery power is required. Check first. It's compulsory to use **ONLY** one power supply as damage may result to the X-431 DBS Plug or a faulty reading may occur or engine may not turn off.
- Later model cars will generally use a 16 pin "Main **OBDII**" connector – refer to vehicle listings below.
- In some cases you may be asked to use the OBDII end of the Duel Nissan or Mitsubishi connectors.

X-431 DIAGUN Communication led light not Operating

- X-431 DBS Plug may require separate power supply
- Cigarette lighter fuse blown – on car or in nose of X-431 lighter adaptor
- The power/ground /signal wires have pushed out of the plugs when installing the connectors
- Flat car battery
- Wrong connector being used (e.g. Toyota and Mazda 17 are very similar)

X-431 Not Working –

- Temperature differential cold to hot conditions may require warming up "time"
- Can Bus systems sometimes require the ignition key off then on, to re-enter a system from the start or may require rebooting (Because some systems may timeout, e.g. 20 seconds from Key on then vehicle system may stop looking for the scanner)

Go "shopping" for some data streams

- This scanner is a world-wide scanner. Australia is a small market that sometimes orders different management systems than the vehicle was originally designed with (sometimes to save importing costs but commonly because the Australian market specifies larger engines). Sometimes the software for a car you are testing may be found in another manufacturer or model program (e.g. Some Mazda & Jaguar can be also tested using Ford USA)

Communication Failure Testing Tips

- Start the engine to test communications
- Are you using the correct vehicle connector
- Aftermarket immobilisers can sometimes cause problems. Start engine to confirm ECU power relay is working or disconnect unit.
- X-431 “handshakes” with the BCM - modified ECU chips can cause problems
- Check pins on vehicle connector have not pushed out of the connector
- Diesels - Some need to be running to communicate with the ECU
- Battery, clean Supply & Ground terminals, test for voltage drop
- Low engine cranking volts can cause the X-431 communications to shutdown
- Check car fuses, some systems & sub systems are separately fused
- Data interrupts to the Body Control Module have been known to impede communications to the point where the car won't start. Disconnect and reconnect battery and retry. (Save radio codes first)
- Check if any other systems can be entered & tested, e.g. If airbag can be accessed only this may indicate faulty or overloaded BCM. Try above ^

Tests for 16 pin OBD-11 vehicle Connector

Use multimeter to check Battery Supply, Grounds & Signals

OBD2-16 Pin Standardised Vehicle Terminal Layout



- 4 Chassis ground less than 0.5 volt drop
- 5 Signal ground less than 0.5 Volt drop
- 7 k line – signal, use Millivolts- Sweep
- 15 L line – signal, use Millivolts- Sweep
- 16 Power 12/13.5 Volts KOEO

Additional technical information available at LAUNCH Web site www.x431.com

The following pages contain some useful information on system information, diagnostic connector locations, BCM and key programming procedures, etc.

We hope they are useful. For further technical assistance more information is available on the Launch website www.x431.com

The key to successful diagnostics is understanding the vehicle's systems and the limitations of the OEM scanner

Testing Conditions Voltage of vehicle battery: 12-14V

- All electric devices such as A/C, headlight, stereos, etc.: switched off
- Throttle : in the closed position
- Transmission in Park / Neutral
- Idle speed: in standard range
- Water temperature: 90-110 Deg
- Transmission oil temperature: 50-80 Deg
- ***Testing outside these conditions may result in incorrect fault codes. Note some tests have to be done in the fault area –EG. Cold Start***

Diagnostic Summary

- Who is principal driver?
- What is problem?
- When the problem began
- Where the problem occurs
- How often the problem occurs

Basic Evaluations

1. Verify your understanding of the driver's concern
2. Check the driver's understanding of the vehicle system in question
3. Are there any earlier problems reported or repairs done
4. Visual, Sound, and Odours checks, Check trouble codes
 - Air cleaner with plastic cover still on, switches left off, wiring, etc
5. Check Moisture, Earths, Battery condition, Fuses
6. Check operation of fault in problem area of concern
 - E.g. A/C not working at idle when hot
7. Gather information about the system –
8. Evaluate symptoms and conditions described by the driver
9. Operate system in complaint area and compare with similar vehicle if possible
10. Isolate problem
11. Fix and Verify with driver

Caution when testing or code clearing SRS systems

It is good work practice when accessing air bag systems to operate the scanner from outside the vehicle. The air bag is a dangerous device and can cause death or serious injury. Scanners cannot set off airbags as a general rule, however, the system may be in trigger mode caused by a faulty component or wiring and any additional load on the circuit may trigger it.

General Generic Tips

When Check Light remains on

- Check Lights stay activated when major emission problems or safety issues are present

Intermittent problems

- Check lights for a few seconds then goes off when DTC code has been stored

Misleading reading

- What the scanner reads and displays may be correct but may also be misleading. The scanner can only relay to you what the vehicle's ECU knows.

Eg, Because scanner says TCC Torque Converter Clutch is engaged on a Holden the activation of it may not have happened – this system has no feed back system to confirm operation – the ECU does not always know what going on!

Clearing fault codes

- Clearing DTC may cause more problems as the ECU's learnt values may be erased but this clears the way for diagnosis
- If the battery is disconnected or flat the learn tables may be reset to standard losing learnt values.
- Quick fix - Drive the vehicle part throttle and moderate acceleration and load the idle system with accessories and it will relearn

Activations

- The ability to select and activate components and test full systems
- Actuators to perform the physical action

Adaptation / Basic Line Resets

- This function should only be used by technicians who understand the results of changing baseline settings, to control units. Eg. Base idle speed setting and transmission shift tables can be erased using this function; it may affect idle, performance, emissions, service life and void warranty. Learned values can be deleted or erased, the outcomes may vary. The problem may be fixed or more problems may be created as ECU struggles to relearn.

Note: Fault clearing can also affect adaptation values.

Coding / Programming

- Coding is used to customise the control units for a particular market or car version. This function gives the technician the ability to “flash” a control unit with a new program or transfer a program to a replacement unit from an old unit. Always consult a manual or suitable technician. Eg. Key matching is coding process.

ECU / PCM - Computer

- **Receiving information from the sensors and switches.**
- **Comparing the actual values received from the sensors with the reference values that are programmed in its memory.**
- **Making corrections as needed so that the sensor values always match the pre-programmed reference values for that particular driving condition**
- ECU performs diagnosis on various sensors and components at various times, and stores the fault codes (if any) in its memory
- The OEM Scan Tool reads the current and history faults codes stored in the ECU memory. Displays the active live data of the ECU

ALFA ROMEO

- Also work with Fiat software - Various engine ECUs (Hitachi, Bosch, Marelli, Lucas), ABS, Auto Trans, Selespeed transmission SRS, Immobiliser,
- Service resets under engine.
- **Connectors OBDII & Fiat 3**
- **Location:** Driver's foot well under dash -



AUDI

- Service resets and fault codes are easy to obtain, however data stream requires special codes to access and understand data. The most common systems of interest are usually between 01 to 015. Detailed information available on www.x431.com website. Or <http://www.ross-tech.com> link to wiki
- **More help late model service assist - on low pages** below
- **VW / Audi Electric Parking Brake Info after VW** below
- **Connectors:** 2 Types – **OBDII-16**, & **Audi-4 (White & Black wired connector)**
- **Locations:** 4 Pin - engine bay or under dash. OBD2 under dash left and right sides, Golf OBD2 – remove ashtray and slide left hand plastic strip across, Passat 2000 under console panel in front of handbrake, A3 1996 – at rear of pocket below radio, A4 - in rear of centre console in rear ashtray, many models common to be under or near ashtray, early Polo - P/S kick panel.



BMW

- Most service resets are available under KOMBI (Dash). Some early models did not support this function & used a separate device.
- When switching off the key on some models you will lose power to the scanner – this is apparently normal for BMW.
- It is not recommended to use two power supplies - one problem is engine will not switch off if two power supplies are used.
- **Connectors:** 2 types – **OBD11 & 20 Pin BMW**
- **Location:** 16 pin in driver's foot well area, 20 pin in engine bay.



BMW 20

BMW Terminologies – Some!

- Engine DME (DDE Diesel)
 - EFI systems BMS43, BMS46, MS41, MS42
- Transmission EGS
 - Gear Systems GS 4 & 5 speed
 - Adaptive Gearbox Control AGS
 - Sequential Manual Gear Box SMG
- ABS & TEVES /ABS/ASC
 - Acceleration Slip Control ASC “Traction”
 - Dynamic Stability Control DSC
- Climate Control IHA/IHCR
 - Heating, Air conditioning & Defrosting
- Electronic Throttle EML
 - Cruise control
- Interior Motioning SPM/SM
 - Seats and Mirrors, Key Pad Memory, Program Key
- Instrument Panel IKE/KOMBI
 - Service Reset
- Body Control – Body
- SRS- ZAE/BAE/ZAE2/MRS/MRS2/MRS3

CHERY

- **Connector OBDII**

CHRYSLER

- Also supports Standard OBDII From 1996
- **Connectors:** 2 types – **OBDII & Chrysler 6 Pin**
- **Note :** *Optional Connector “Special Chrysler OBDII 16” Little is known about this connector it’s not supplied in the Australian kit (Used around 1995-1999 on some models ? Please ring us about the latest news!)*
- **Location:** Drivers Foot Well area OBD11 & Chrysler 6



CITROEN

- Can also use Peugeot software
- **Connector : OBDII**
- **Location:** Drivers Foot Well area

DAEWOO / HOLDEN

- Some may not have power at connector and require separate power supply lead
- Early Daewoo use Daewoo connector
- Daewoo Nubira 1998 20 pin under glove box use the connector that doesn't power X431 and use the separate 12 Volt power cables or cigarette cable
- Late use GM/Daewoo or GM/Vaz
- **Barina 2005-Daewoo Kalos Cruze-2008-** Daewoo Lacetti Premiere
- **Cruze (Early)** Suzuki Ignis -**Epica** -Daewoo Tosca-**Viva**-Daewoo Lacetti
- **Captiva**-Daewoo Winstrom **Drover**-Suzuki Jimny
- **Connectors:** **OBDII**, Daewoo 12, GM/Daewoo or GM/Vaz
- **Location:** Under dash & D/S kick panel above ECU



DAIHATSU

- Copen, Hi-Jet, Mira, Move, Terios and others
- Covers Mira from 1998, most other models from 2000
- **Connector : OBDII**

FIAT

- Most systems including Selespeed transmission & some Alfa Romeos
- **Connectors:** **OBDII & FIAT 3**
- **Location:** Under dash P/S & D/S kick panel



FORD AUSTRALIA

- EA – BA/BF, Explorer, KA, Mondeo, Transit, Etc
- Festiva under Kia “Pride & Avella” or under Mazda 121
- Ford Fiesta, Focus, Taurus, (also see USA & European Ford)
- BA: Can Bus is a networking system some times you may have re enter to establish communications – System design dilemma !
- **Connectors:** **3 Types 6+1, Ford 20 Pin, OBDII**
- **Location:** Ford 6+1 - Engine Bay, 20 Pin - In fuse box in lower dash, OBD2 - Drivers foot well under dash, Transit Van OBD2 - In fuse box on drivers side right of steering column (top left corner under rubber cap which holds spare fuses- remove cap)



EUROFORD

- 1996 Onward
- Cougar, Explorer, Fiesta, Transit, Focus, Mondeo, KA and others
- Connector **OBDII**
- **Location** Driver's foot well under dash

FORD USA / MAZDA / JAGUAR S Series

- 1200 vehicles including Cummins & Cat diesels as fitted to late F Series
- Includes Mazda 2001-2 Tribute / Ford Escape / Jaguar S Series LS1 (Mondeo based)
- **Connectors: 2 Types Ford 6+1 & OBDII**
- **Location:** Ford 6+1 - Engine bay, OBDII – Driver's foot well under dash

GENERAL MOTORS USA / DAEWOO

- All USA cars support OBD2 Protocol
- **Captiva** (Daewoo Winstrom) also GM- USA Captiva
- Cadillac, Pontiac, Chevrolet and light trucks
- **Connector : OBDII**
- **Location:** Driver's foot well under dash

GREAT WALL

- **Connector OBDII**

HOLDEN COMMODORE VN-VE

- Functions very similar to Holden Tech 2 factory tool, includes key matching, BCM & instrument panel programming. Automatic power balance above idle with engine speeds per cylinder
- Fault code & Data history: Automated ABS brake testing and bleeding
- **Astra / Barina / Combo / Vectra / Zafira use Opel Software**
- **Barina 2005** Daewoo Kalos
- **Cruze 2008** Daewoo Lacetti Premiere / GM USA Cruze (**Early Cruze** Suzuki Ignis)
- **Epica** Daewoo Tosca
- **Viva** Daewoo Lacetti 1.8 Engine use Gentra
- **Captiva** (Daewoo Winstrom) Use GM- USA Captiva
- **Drover** Suzuki Jimny
- **Rodeo & Jackaroo** also under **Isuzu Software**
- **Barina Combo (Corsa B)**
- **Zafira (Astra)**
- 2000-2001 VU 308 Utes & VX Statesman V6 supercharger usually utilise late VS systems. Some braking systems are in early VS.
- **Location:** Driver's foot well under dash
- **Connectors OBDII & Optional VN / VP 6 PIN**

Commodore won't communicate

- Clean battery terminals & grounds,. Check relays and fuses
- X-431 "handshakes" with the BCM - modified ECU chips can cause problems
- ABS system maybe faulty - disconnect ABS plug under bonnet and retry.(Water in connector is common) 1997 VT with the Bosch 5.3 ABS units are the same as VY water enters the wiring harness near the drivers firewall and runs down the harness and collects in ABS ECU –white power on the terminals is the result of water contamination – can cause non defines codes lights on and wore no ABS operation – Scanners communicate on the same line and can not work – remove ABS plug and retry
- Disconnect and reconnect battery and retry - body control units have been known to block communication to the point where the car won't start.
- If airbag system only can still be accessed this usually indicates BCM faulty or overloaded – try above ^

TIP's Cruise control and Auto Transmission problems on Holden and Opel

Brake lights not working or incorrect globes on Holden systems will cause:-Cruise control not to operate on Holden and Opel, also **Opel automatic transmission to thump into gear. Reason: the PCM looks at current flow to determine if brake lights are working – no globes or incorrect globes will affect operation – Auto transmission PCM thinks foot still on brake and transmission in neutral until engine speed increases.**

Body Control Modules Eg. Holden BCM

- Being the security and bus master the BCM polls each system every 300 milliseconds using serial data bus line – to check on current activity and fault conditions
- BCM – Also Bus master
- PCM V6 & V8
- *PIM for Gen3
- Instrument cluster INS
- ABS and Traction control
- SRS – Air bag
- Electronic Climate Control Module ECCM
- External diagnostic tool interface -Tech 2

Holden Commodore Body Control Module Replacement & Key Programming

- The Body Control Module (BCM) holds the vehicle's security code. If the BCM is changed the key pads will also need replacement as they can only be coded to the BCM once.
- If all new key pads need to be coded (i.e. no original key pad to clone from), the BCM's security code may need to be known. This code is supplied on a card with the vehicle when new. On some earlier models it may be printed on the BCM. (This requirement has been over-ridden in the X-431 for VR-VS Commodores and also is not required for VY-VZ)
- The BCM is usually painted black and is located under the lower dash panel to the right side of the steering column.
- If possible, before removing the old BCM use X-431 to take access the mechanical key and radio codes which are stored in it for reference only. These can then be re-entered into the new BCM after replacement.
- Mechanical key number is the number locksmiths use to recut a new key -there are over 4000 options
- The radio code is input manually by entering the 4 digit security code on the radio station preset buttons

Process

1. Connect X-431, turn ignition on, select Holden (use latest version software)
2. Go to Body Control System/ Security/ Security Information (radio & key codes) and print if possible
3. Replace BCM (if applicable) & fit new key head to ignition key (old keys can't be reprogrammed)
4. Cycle ignition key off and on again, select Body Control System/ Security/ Program/ Program Remote Key
5. Select All New Key - screen to input security code will appear
6. Input the 6 digit code from new BCM – press "OK" wait until process complete
7. Go back in menu and select BCM Link to PCM/PIM – press "OK" – follow X-431 prompts until process finished
 - Car should now start if process has been followed
 - As the security system is now functioning, additional keys must be programmed under "Extra Key" in X-431 (maximum of 3 keys in total)

Programming Extra Keys

- The BCM reads the information from the keypad when the ignition is switched on and compares it to the security code in the BCM. If the codes match, the security system is temporarily disabled. Additional key pads can be programmed while the security system is inactive - the system will re-arm after a short time if the engine has not been cranked so the time for completing the following process is limited.

Process

1. Connect X-431, turn ignition on, select Holden (use latest version software)
2. Go to Body Control System/ Security / Program/ Program Remote Key/ Extra Key.
3. Following the step-by-step prompts on X-431:
4. Disarm security system by turning ignition key off then on
5. Remove current key or key pad, replace with new pad
6. Turn key on – programming should take 10-15 seconds
7. Repeat for additional keys.
8. Start engine and test door locks and boot from new key pads

Tip VS Running Rich

- Oxygen sensors on VS Commodores have poor sensor earths on RHS. The best fix is to ground the return wire at PCM to body ground earth – quick fix snap lock O2 sensor earth to O2 heater ground – be careful – you may let the smoke out.

Instrument configuration overview of VT

Caution (BCM & Panel get confused if a system that is not fitted to the car becomes enabled)

Configuration 1

SRS configuration

- No loop SRS LHD export only
- 3 Loop Pretensioners & Drivers Air Bag
- 4 Loop Pretensioners & Drivers, Passengers Air Bags
- 6 Loop Pretensioners & Drivers, Passengers Air Bags Plus Side Air Bags

SRS Light

- Air bag light set to enable

Speedo pulses

- Select tyre size from menu standard nominal 6250
- Eg 225 55 R16 Select 6087

Speedo Calibration

- Set standard 100%
- Re Calibration -Option 80-120%

Tachometer Ratio

- V6 or V8 Gen 3

High voltage Tachometer

- Set to disable all models

ECC Electronic Climate Control

- Option only if fitted
- Usually on Berlina and Calais

- Caution (if not fitted but enabled)

Configuration Options 2

Low Coolant lamp

- For V6 set to disable
- Gen 3 V8 set to enable

High temperature Lamp

- For V6 set to disable
- Gen 3 V8 set to enable

Rear lamp failure

- Set to disable all models except Calais

Traction control off lamp

- Berlina and Calais enable
- Other models check for option

LGP Lamp

- Option if fitted on V6
- Gen 3 disable

Cruise control

- Berlina and Calais enable
- Other models check for option

Police mode

- Set to disable
- If enabled window display will show digital speed, but over speed alert won't operate

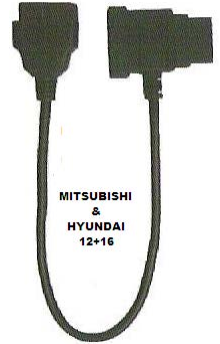
HONDA

- **Location:** various - 3 pin under glove box or behind P/S kick panel, Accord 94-97 Blue connector under RHS of glove box, Civic 91-95 P/S kick panel, Prelude 97-01 RHS of LH foot well behind cover on dash console, OBD2 under dash usually RH side 1999 Civic connector in L/H kick Panel 3 pin Green with dust cap
- **Connector:** 2 Types - **OBDII & Honda 3 Pin**



HYUNDAI

- Note : Check wiring of engine component sensors for deterioration, shorting and pulled out terminals caused by poor design and cost cutting.
- Key Matching
- Accent 2000-2003 - try Verna
- Excel from 1996 use Accent – Excel name was used in Australia when Accent was used worldwide usually after 1996
- Elantra & Lantra - use Avante (worldwide name)
- Elantra & Lantra – **EARLY 12 PIN USE MITSUBISHI SOFTWARE SELECT 12 PIN OPTION**
- **Connector:** 2 types **OBDII & Dual Asian Mitsubishi / Hyundai -12 /16 Pin**
- **Location:** Under dash 12 pin, 90-95 Excel & Lantra - RH kick Panel below ECU, OBD2 - under dash (some models in fuse box under dash.) Excel (X3) 95-96 RH of steering column in dash hidden vertically 10cm below air vent above switch bank, 90-94 Sonata V6 - 12 pin under steering column, later 95-99 RH kick panel



ISUZU / HOLDEN

- Some available under Holden
- Rodeo & Jackaroo also available under Holden software
- Specific Isuzu software, Does Some ISUZU Trucks
- **Connector :** **OBDII**
- **Location:** Driver's foot well under dash

JAGUAR

- Also S series under LS3 USA Ford
- Late V12's (approx 1996 onward) work under EOBD2
- **Connector :** **OBDII**
- **Location:** Under Dash & D/Side Kick Panel

KIA

- Australian model names may be vary from original name, eg. Carnival / Sedona, Mentor / Sephia etc
- Data streams show spark duration time, great for ignition testing
- **Connectors:** **Kia 20 & OBDII**
- **Location:** Most 20 pin - Engine bay upper LH side or near battery, OBDII - under dash



LAND ROVER

- Good coverage on Discovery II, Defender, Range Rover, Freelander, Diesel & Petrol after 1999. Earlier vehicles may cover engine and some minor systems.
- **Connector :** **OBDII**
- **Location:** Under dash –Passenger side under glove box & drivers side

MAZDA / FORD

- Ford USA also has some Mazda software (Tribute / Escape Best >USA Ford)
- Software has 2 options - Mazda & Premacy, Premacy is usually better for later models - supports active data on Ford Probe.
- Connectors: **OBDII & Mazda 17,**
- (17 pin connector may require separate power on early models, check first.) Mazda 2, 3, 6 are Can Bus Systems
- **Location:** 17 pin - LH engine bay (used up to 2003 on some models), OBD2 – Driver' foot well / under dash

MERCEDES BENZ

- Mercedes Benz “short test” takes a while (approx 15 mins.) but checks all systems and gives a report on all systems fitted. Selecting the failed system (f) gives quick access to that system. The short test can be stopped at any time
- Symbols: System pass √, System Fail f, Not available !
- Mercedes Model Number is found by using digits 4,5&6 of the car's VIN. (Eg. VIN = WDB21112345678901, model is 211)
- **Connectors: *3 Pin Universal, BENZ 38 Pin, OBDII**
- On early models with 16 pin connector in engine bay using 3 Pin Universal connector, Red wire connected to power pin, Black wire to ground pin, Yellow wire used to enter individual systems as selected at the scanner.
- **Locations:** OBDII - in or under drivers side dash, 38 pin - engine bay left or right (some under plastic cover LH side looks like large plastic nut -undo to find connector plug), Early 8 &16 pin box R/H engine bay



Manual 3 pin Selection of Systems Black – Ground, Red – Power, Yellow - Select system being tested. You will be prompted by the software.

Pin definition 8 pin rectangular socket

- | | |
|-------------------------------|---------------------------------|
| 1. Body ground | 9. ADS/RB(124) |
| 2. On board diagnostic switch | 10. RST(129)Speed Signal |
| 3. CIS-E/DM | 11. ATA |
| 4. EDS/LED | 12. IRCL |
| 5. ASD | 13. EATC |
| 6. AB | 14. EA(124)ISC(124)/ESCM(129/CC |
| 7. AC (124)/RB(129) | 15. Not Used |
| 8. DI/HFM,SFI,MFI,DMS | 16. Positive Power |

Pin definition 16 Pin rectangular socket

1. Body Ground
2. Ignition / Press button
3. Diagnosis Percentage
4. Engine Trouble Code
5. ADS
6. SUS Trouble Code
7. A/C trouble Code
8. Ignition Control System

LAUNCH TECH VICTORIA

MERCEDES SPRINTER & VITO (Transporter & V Class)

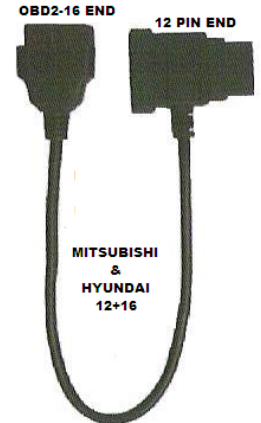
- Covers many systems similar to Mercedes Benz passenger cars
- **Locations:** Varies Under Passengers seat, Passengers kick panel & Drives foot well and under drives lower dash. Consider Fuel box
- **Connectors:** Vito – **Benz 38 & OBDII**, Sprinter – **Benz-14 & OBDII**



MITSUBISHI

Early Mitsubishi Magna before 1995 - if having problems with engine data or other systems, try specifying 12 pin connector in software (May also work on other vehicles) Common to have faulty ECU if engine won't start and scanner won't communicate

- **Pre 2005 Use Mitsubishi / Hyundai Duel 16 OBDII Not OBD-II**
- **Connector: OBDII-16 & Mitsubishi/Hyundai Duel Asian 16 & 12 pin.**
- **Location:** Driver's side left or right of steering column just below dash



Mitsubishi Terminologies – Some!

- Electronic Control Suspension (ECS)
- Immobiliser (IMM)
- Traction Control (TCL)
- 4-Wheel Steering (4WS)

NISSAN

- Early Nissan ECCS systems cannot be accessed with scanner – manual decoding only
- **Connector: OBDII & Nissan 14 & 16 pin**
- **Location:** Usually in driver's foot well area, some Pulsars behind dash panel RHS of steering column, some in fuse box in dash behind cover



Nissan Terminologies – Some!

- Body Control -In Vehicle Management System (IVMS)
- Cruise Control -Automatic Speed Control Device (ASCD)
- High Load Active Suspension (HICAS)
- Torque Converter System (NCVT)
- Smart Entrance (Security)

OBDII & EOBD

- “On Board Diagnostics 2” / “European On Board Diagnostics”
- American & European emissions testing protocols & standards
- Korean & some Japanese have an OBD2 protocol
- Mandatory on all new cars sold in USA from 1996, Europe from 2001, Australia from 1st Jan 2006
- **Connector: OBDII**
- **Location:** Connector must be located in the driver's side of dash central area

LAUNCH TECH VICTORIA

OPEL / HOLDEN

- **HOLDEN ASTRA, BARINA, COMBO, VECTRA, ZAFIRA, ETC**
BARINA 2005 use Daewoo Kalos
- **Check Daewoo for Holden after 2005**
- Key Matching & Programming – Need original security code from dealer delivery
- Engine/transmission combination may be different to European specification. Eg. Astra 1.8 selected, Instruments and ABS were found correct but engine and transmission were under same year Vectra. Check engine code and try different auto trans identification numbers as shown on menu.
- **Connector: OBDII**
- **Location:** Astra / Vectra – next to handbrake in middle of centre console under flat cover – lift from front of the panel behind gear selector. Barina / Combo - inside fuse box in dash. Also try driver's foot well area for other models.

PEUGEOT

- Peugeot engine family on bonnet sticker
- Also try Citroen software
- **Location under Dash OBDII**

PORSCHE

- **Location: under Dash OBDII**

PROTON

- Early systems used Mitsubishi software.
- **Location: driver foot well under dash OBDII**

RENAULT

- Engine family on bonnet sticker
- **Connector : OBDII**
- **Location: under Dash**

ROVER

- Covers various late model MG and Rover vehicles including MGF, MG TF, MG ZT/ZTT, Rover 75,
- **Connector : OBDII**
- **Location: under Dash**

SAAB

- Late model V6 will also work using Opel Vectra software. Usually supports EOBD2 protocol.
- **Connector : OBDII**
- **Location: under dash OBD2**

SEAT (refer to Audi)

- **VW / Audi Electric Parking Brake Info after VW below**

SKODA (refer to Audi)

- **VW / Audi Electric Parking Brake Info after VW below**

SMART

- Software currently at an early stage of development. Covers Fortwo, Forfour and Roadster 1998 – 2005. Engine, ABS, SRS, ESP, Instruments and other systems.
- **Connector : OBDII**
- **Location: under Dash**

LAUNCH TECH VICTORIA

SSANGYONG

- Covers Musso, Rexton, Korando, Kyron and others
- Petrol Engine, Auto Trans, SRS, ABS, 4WD, Suspension control
- **Connectors :** Ssangyong 14, Ssangyong 20 **OBDII**
- **Location:** Engine Bay & OBDII Under Dash



SUBARU

- **Connector** Subauru 9 & OBD11
- **Location:** Drivers foot well under dash Forester 2001 - OBD2 hole in lower “centre of drivers’ dash” steering column cover

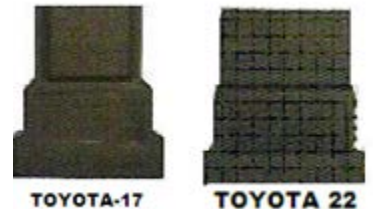


SUZUKI

- Covers various models from 1996 onward – Engine, Auto Trans, ABS
- **Connector :** OBDII
- **Location:** under Dash

TOYOTA / LEXUS

- Key Matching and door systems are reprogrammable.
- The 17 pin connector usually requires separate power, check first.
- Early systems have very slow data streams if supported at all
- Common for the power/ground /signal wires to push out of the plug when installing the 17-22 connectors.
- **Connectors 3 Types, Toyota 17 // Toyota 22 / (OBDII)**
- **Locations:** OBDII – Driver’s foot well or under dash, 17 Pins - Engine bay left or right upper guard. 1998-2003 Toyotas usually have 2 connectors - 17F or 22 pin in engine bay & OBDII in foot well. X431 may work with either or both connectors depending on the specific vehicle and system being tested.



VOLVO

- May have EOBD protocol
- Extensive Help menu’s Hi-light fault code & press help
- **Connector :** OBD11
- **Location:** Under Dash OBDII-16

VOLKSWAGEN (Refer Audi)

- VW / Audi Electric Parking Brake Info below

LAUNCH TECH VICTORIA

VAG Longlife Service This service light reset procedure must be used on VAG vehicles that require this type of service. ***Why do we have to do Longlife servicing, and what is it?***

Longlife Service Regime VW recommends this service if the vehicle is likely to drive more than 25 miles a day and if it is driven in the following way:

- Regular long distance driving
- Driving at a constant speed with minimum vehicle and engine loading, and minimal towing
- Economical driving

This Longlife regime has been made possible due to the development of new Volkswagen engines with the latest technically advanced Longlife oil. These engines use built-in sensors that continually monitor the oil quality, making it possible to enjoy reliable and confident motoring for up to a maximum of 18,000* miles or 24 months (whichever occurs first).

Time and Distance Service VW recommend this service if the vehicle is likely to drive less than 10,000* miles in a year, and if it is driven in the following way:

- Mainly city centre driving, short journeys with frequent cold starts
- High engine loading activities, e.g. frequent hill climbs, driving the vehicle fully loaded
- Uneconomical driving using high rpms with heavy acceleration and heavy braking.

*Please note that all mileages are approximate as the service indicator system uses kilometres as the distance measurement.

Special Notes

- Vehicles in the European market generally have additional sensors, such as oil temp and oil quality sensors, which are used to calculate more advanced service strategies. Changing a vehicle from the standard Fixed Interval settings to the Flexible Intervals would have undesirable results if the additional sensors are not installed.
- Some vehicles do not use service intervals at all. If the Launch equipment reports that adaptation channels could not be read check the Instrument cluster coding to see if service intervals are even applicable.
- Many of the 2010 and newer VW models use the newest protocol Instrument Clusters, which do not support conventional Adaptation Channels. Those models will require the either manual cluster input reset or by choosing "ESI: Resetting ESI" from the Launch menu.

LAUNCH TECH VICTORIA

Procedure for resetting oil and service systems 2008 forward

The new Audi A4, A6 and Q7

FYI – (*For Your Information*)

Please read this customer feedback

Note : Info regarding "Service Due" message on Audi A3 (MY08) the channel info contained did reset message .For your information Volkswagen / Audi on some models run 2 service intervals ,one can be reset via instrument cluster but the other one needs a VAG COM or Generic scan tool (X431).The procedure outlined will work on A3 as well .The number codes listed on the lower section of your email relate to LAUNCH X431 tool (e.g MMI Warning) 17-10-50-50 so to reset service due message you would access Audi VW program module 17(Instruments) Adaptation (10) channel (50) and then change default value to (50) you then repeat for subsequent channels changing to listed defaults and this will reset "Service Due" message to 2 years and 30 000 KM.

1. Channel number meaning:

02 Service Reminder Status
40 Distance since Service
41 Time since Service
42 Minimum Distance to Service
43 Maximum Distance to Service
44 Maximum Time to service
45 Oil Quality
47 Soot Quantity
48 Thermal Load
49 Minimum Time to service
50 Basic Distance Value for oil change
51 Basic Time value for oil change
52 Basic distance value for inspection
53 Distance since inspection
54 Basic time value for inspection
55 Time since inspection
56 Day counter
2.Q7

Reset channel 53 and 55.

A6 service reset

17-10-02-0
17-10-45-1
17-10-43-150
17-10-42-150
17-10-49-365
17-10-40-100
17-10-44-365
17-10-45-2
if MMI warning
17-10-50-50
17-10-51-365
17-10-52-300
17-10-53-0
17-10-54-730
17-10-55-0

LAUNCH TECH VICTORIA

VW / Audi Electric Parking Brake

Some Audi and VW models utilise an electric parking brake. A button on the car's dash activates electric servo motors in the handbrake calipers to engage or disengage the parking brake. In order to replace the brake pads, the servo motors must be made to completely retract which will require the use of a suitable scan tool. Attempts at replacing the pads without electrically retracting the calipers may result in damage to the parking brake mechanism.

The following explains how this procedure can be performed using the Launch X-431 scan tool.

1. **Procedure for Audi A6 (4F) and VW Passat (3C) Parking Brake**

Open Rear Parking Brake

- a. Firstly cycle the Parking Brake ON, then OFF
- b. Select (53 Parking Brake) – **NOTE:** Do not select (03 Brake Electronics)
- c. (Basic Settings) In Channel enter "007"
- d. Press (OK) The brake calipers will then open, allowing the pads to be changed.
- e. Press (OK)
- f. Press (BACK) To Exit from Module

Note: It is normal for the LED in the parking brake switch and the warning lamp in the instrument cluster to blink rapidly at this point.

Close Rear Parking Brake

- a. Select (53 Parking Brake)
- b. (Basic Settings) In Channel enter "006"
- c. Press (OK) The brake calipers will then close.
- d. Press (OK)
- e. Press (BACK) To Exit from Module
- f. Cycle the Parking Brake ON, then OFF. The LED in the parking brake switch and the warning lamp in the instrument cluster should now stop blinking.

2. **Procedure for Audi A8 (4E) Parking Brake**

Open Rear Parking Brake for Pad Change

- a. Select (53 Parking Brake)
- b. (Basic Settings) In Channel enter "005"
- c. Press (OK) The brake calipers will then open, allowing the pads to be changed.
- d. Press (OK)
- e. Press (BACK) To Exit from Module

Note: After fitting new pads the following adaptation must be performed

Entering Pad Thickness

- a. Select (53 Parking Brake)
- b. (Adaptation) In Channel enter "006"
- c. Press (OK)
- d. Enter the current thickness of the new pads -Between 3 - 14 mm
- e. Press (OK)
- f. Press (BACK) To Exit from Module

Open Rear Parking Brake for Repairs

- a. Select (53 Parking Brake)
- b. (Basic Settings) In Channel enter "007"
- c. Press (OK)
- d. The brake calipers will then open
- e. Press (OK)
- f. Press (BACK) To Exit from Module

Close Rear Parking Brake

- a. Select (53 Parking Brake)
- b. (Basic Settings) In Channel enter "006"
- c. Press (OK) The brake calipers will then close
- d. Press (OK)
- e. Press (BACK) To Exit from Module

LAUNCH TECH VICTORIA

A	Ampere,	AGR	Exhaust-gas recirculation
A/D	Analogue/digital, A/D converter: converts analogue signals (such as speed or oxygen sensor voltage) to digital signals that can be processed by ECU	AGR V	Exhaust-gas recirculation valve
A1	Axle 1, usually front axle	AHK	Trailer coupling, or Active rear axle kinematics
A2/3	Axles 2/3, rear axle(s)	AHM	Auxilliary Heater Module
AA	Automatically triggered alarm	AHS	Alcohol sensor
AAC	Auxiliary-Air Control Valve	AHV	Trailer Brake Valve
AAP	Acceleration Auxiliary Pump	AI	Air Injection
AAS	Drive-off assistant	AICC	Autonomous Intelligent Cruise Control (speed and distance)
AAV	Activated charcoal filter shutoff	AIV	Air injection valve
AB	Airbag	AK	Automatic clutch. operates when driving off, shifting, & stopping.
ABC	Active Body Control, ‘Chassis’	AKEK	Automatic child-seat detection
ABD	Automatic Braking Differential	AKF	Activated charcoal filter
ABS	Anti-Blocking System	AKS	Active headrest system (BMW) Automatic clutch system.
ABS 2	Anti-Blocking System separate,	AKSE	Automatic child-seat detection
ABS 3	Anti-Blocking System integrated in to brake booster	AKT	Active, or Current
ABV	Auxiliary-air valve or Automatic blocking prevention, term >ABS	ALB	Automatic Load-Dependent braking force control
AC	Air Cond, Alternating current	ALC	Adaptive light control. The headlight illumination is distributed variably according to the driving situation (BMW)
ACC	Adaptive Cruise Control	ALDA	Absolute measurement, boost-pressure dependent full-load stop
ACD	Active centre differential	ALDL	Assembly Line Diagnostic Link,
ACM	Airbag Control Module Automatic limited-slip differential (Mitsubishi)	ALFB	Atmospheric pressure and load- dependent start-of-delivery
ACT	Air charge temperature..	ALG	Axle load sensor
ADA	Atmospheric-pressure dependent full- load stop /distributor injectio	ALR	Automatic longitudinal control
ADAM	Advanced Dynamic Aid Teves Mechanism, braking assistant).	ALU	Arithmetic/Logic Unit MicroPC
ADAPT	Adaptation, Eg. ECU learning	ALV	Axle load distribution drive-off
ADB	Automatic Differential Brake. (ensures traction by braking)	ALWR	Automatic headlight vertical aim
ADF	Atmospheric Pressure Sensor	AMR	Drive torque control
ADR	Automatic distance control Trigger duration control	ANC	Active Noise Control. System actively influences the intake noise
ADS	Adaptive Damping System, Automatic throttle-valve actuator, Active Driving System	AOS	Automatic Occupant Sensing
AEI	Advance Electronic Ignition, fully electronic ignition system	AP	Air pump
AFB	Atmospheric-pressure dependent start- of-delivery	APB	Active Parking Brake. Teves with driver-assistance functions such as drive-off assistance, parking aid, and immobilizer.
AFI	Air-supported fuel injection	APS	Autopilot system
AFS	Advanced Front-lighting System Variable light distribution via Movable reflectors	ARA	Anti-jerking control
AG	Automatic transmission	ARD	Active jerking suppression
AGN	Exhaust-gas after treatment	ARF	Exhaust-gas recirculation
		ARFR	Exhaust-gas recirculation rate
		ARMADA	Triggering unit SRS external differentiated trigger Airbag
		ARMIN	Trigger unit for restraint systems with integrated emergency-call
		ARR	Exhaust-gas recirculation control

LAUNCH TECH VICTORIA

ART	Distance-based cruise control	BC	Blink code or Flash Code
AS	Air intake or Towing protection	BCM	Body control module Holden
ASC	Automatic stability control, Controlled force transmission	BD	Bd: baud.Unit for data.
ASC+T	Automatic stability control regulated force transmission & traction	BDE	Petrol Direct Injection
ASD	Automatic limited-slip differential	BDM	Petrol/Diesel Speedo Module
	ASG Attachment control unit or Semi-automatic transmission	BEV	Battery Electric Vehicle
ASM	Asynchronous machine Alarm Siren Module	BF	Passenger-side
ASMS	Automatic stability management	BFA	Passenger airbag.
AS-NO	Exhaust-gas sensor for NOx	BF-AB	Passenger airbag
ASP	Shutoff valve for ASR brake	BFL	Brake Fluid Level
ASR	Transmission slip control	BFS	Passenger Side
ASR 2	Transmission slip control, separate, system name	BG	Brake assembly, integrated ABS
ASR 3	Transmission slip control, integrated, system	BHKZ	Battery high voltage capacitor ignition
AS-T	Exhaust-gas sensor temperature	BIP	Start Ignition Pulse
ASV	Air switching valve, air intake valve or Trailer control valve	BKL	Brake Indicator Light
AT	Automatic transmission	BKR	Braking force control
ATB	Exhaust-gas temperature limit	BKU	Braking force support
ATF	Automatic transmission fluid Exhaust Gas temperature sensor	BKV	Power Brakes
ATL	Exhaust-gas turbocharger	BLDC	Brush Less Direct Current Motor
ATWS	Anti-theft warning system (Opel)	BLS	Brake Light Switch
AU	Exhaust-gas inspection	BLU	Brake light suppression.
AUS	Ultrasonic Alarm System	BM	Reference Mark
AUT	Automatic transmission	BMR	Braking torque control
AV	Outlet valve or Shutoff valve	BOU	Brake Operating Unit, controls and activates the brakes
AW	Drive shaft	BPA	Temp @ which Paraffin crystals precipitate out of diesel
AWG	Evaluation switching unit	BPS	Brake Test standard
AWR	Distance warning radar	BR	Brake control for" Transmission slip control" ASR
AWS	Evaluation switching unit AY Lateral acceleration. A=acceleration, Y=lateral direction	BS	Brake Disc or Acceleration
AYC	Active yaw control. Rear-axle limited-slip differential (Mitsub }	BSU	Special brake inspection
AZG	Adaptive cylinder equalisation. Quantity equalisation control.	BT	Brake Drum
B	Internal combustion engine	BTC	Bosch traffic controller, traffic monitoring system
B-	Battery negative voltage	BTS	Battery disconnect switch (Merc)
B.C.D.D.	Vacuum controlled idle air	BV	Brake valve
B.P.T.	Pressure control valve	BVA	Brake wear indicator
B+	Battery positive voltage	BVSV	Bimetallic-controlled vacuum switching valve
BA	Acceleration sensor or Brake assistant (Mercedes Benz)	BWN	Bosch Workshop Network
BAR	Unit of Pressure	BZ	Brake Cylinder
BAS	Brake Assistant System	BZM	Reference Mark
BBA	Service brake system.	C	Capacitor, capacitance, Chassis Fault codes (OBD error codes,)
BBUS	Body Bus	C.R.	Compression Ratio
BBV	Service-brake valve.	C3/B7	C3/B7 Speed Signal for trip
		CAA	Clean Air Act (California)
		CAL	California EPA Standards
		CAN	Controller Area Network, Data exchange between ECU's
		CANDI	Can Diagnostic Interface
		CAN-H	CAN High.
		CAN-HI	CAN High.

LAUNCH TECH VICTORIA

CAN-L	CAN Low.	CTX	Continuously Variable Transmission
CAN-LO	CAN Low.	CV	Check valve, shutoff valve, Throttling non-return
CARB	California Air Resources Board	CVN	Calibration verification number.
CARIN	Mercedes Autopilot system	CVT	Continuously Variable Transmission
CAS	Computer Aided Service Collision Avoidance	CW	Clockwise, direction of rotation
CAT	Catalytic Converter	D	Diesel engine Drive AT Decimal
CB	Vacuum control of starting mix	D3	German exhaust-gas Std EU3.
CBC	Cornering Brake Control	D4	German exhaust-gas Std EURO4.
CC	Cruise Control	DA	Boost pressure dependent full-load stop
CCM	Cubic Centimetres,	DAB	Digital Audio Broadcasting
CCW	Counter clockwise	DBC	Dynamic Brake Control
CDCR	Compact Disc Changer Rear	DBE	Mercedes Roof operating control
CDI	Common Rail direct injection	DBG	Flow limiter
CDL	Central door locking, Holden	DBR	Retarder sustained action brake Retarder relay
CELS	Central Lighting System	DBV	Pressure limiting valve
CEM	Centralised Electronic Module	DC	Direct current
CFG	Configuration	DCU	Diesel Control Unit/Dosing Control To lower NOx
CFI	Cylinder-individual injection	DD	Fuel pressure limiter
CGI	Stratified charge gasoline inject	DDA	Digital directional antenna, blocks out radio wave reflection
CH	Hydrocarbon .Norm. HC-	DDE	Digital Diesel Electronics,/ Direct Data Exchange
CH4	Methane, component natural gas	DDM	Driver Door Module, Rpm versus alternator ripple
CID	Camshaft position sensor Colour Info Display	DDS	Diesel theft protection
CIFI	Cylinder-individual fuel injection	DECT	Digital enhanced cordless telecommunications data
CIM	Column Integration Module	DEE	Digital Engine Electronics
CIN	Calibration identification	DF	Direct-fire, Distributorless coil ignition>double ignition coil RPM sensor, or Pressure sensor,
CKP	Crankshaft positioning sensor	DFA	Speed sensor output
CMH	Mixture preheating	DFB	Flow limiter Common Rail, dynamic start-of-delivery
CMP	Camshaft positioning sensor	DFC	Deceleration Fuel Control -
CNG	Compressed natural gas	DFHL	Speed sensor, left rear
CNS	knock sensor	DFHR	Speed sensor, right rear
CO	Carbon monoxide	DFM	Dynamo field monitor.
CO2	Carbon dioxide	DFS	Double-spark coil, supply 2 cyls
COMAND	Cockpit management & data	DFVL	Speed sensor, left front
CPS	Camshaft Position Sensor or Crankshaft or Speed	DFVR	Speed sensor, right front
CPU	Central Processing Unit	DG	Speed sensor, /sensor for transmission input speed
CPV	Constant Pressure Valve	DGI	Direct gasoline injection
CPX	High-pressure pump C Rail	DHK	Nozzle holder combination
CR	Common Rail. (Diesel)	DI	Direct (diesel) injection
CRI	Common Rail injector	DI/DIST	Distributor type
CRIN	Car radio identification number – “Radio Code”	DIA	Diagnosis
CRP	Common Rail pump. Diesel or Car phone	DIAGK	Diagnosis K line, communication line-OBD2Plug
CRS	Common Rail system. Direct Diesel injection	DIAGL	Diagnosis L line,OBD2 Plug
CRT	Master Computer or Catalytic converter		
CRW	Common Rail parameters		
CS	Crankshaft		
CSCV	RPM control valve		
CTG	(Mercedes) CAN tester		
CTS	Coolant Temperature Sensor,		

LAUNCH TECH VICTORIA

DIGI	Digiplex (Marelli)	DSS	Pressure-jump switch
DIGJET	Digitally controlled fuel injection	DSTC	Dynamic Stability & Traction
DIGIPLEX	Fully electronic ignition system	DSU	Pressure sensor for ambient P
DIGNITION	Electronic ignition system	DSV	Pressure control valve
DIN	German Industrial Standard	DTC	Diagnostic Trouble Code
DIO	Data in/output Interface swap data both directions	DTI	Diesel direct-injection with distributor pump (Opel)
DIS	Direct Ignition System	DTR	Distronic. Distance control S
DISA	Differential Intake Manifold System .Variable Length	DV	Pressure supply, Throttle device
DK	Throttle Valve	DVH	Pressure valve holder
DKA	Throttle valve actuator	DWA	Theft warning system, BMW-specific designation
DKE	Throttle valve incrementation bit	DWS	Rotation angle sensor
DKG	Throttle valve sensor, detects current position TPS	DYN	Dynamic
DKI	Throttle valve actual value Current TPS Voltage	DZ	Breakthrough ignition
DKP	Throttle valve potentiometer	DZG	RPM sensor
DKR	Throttle valve reduction / TPS valve reduction bit	DZV	Digital ignition, fully electronic
DKS	Throttle valve switch	E	Electrical fan, EFI engine, Economy - shifting AT
DKV	Throttle valve preset	EA	Original equipment
DLB	Compressed-air brake	EAG	Electronic automatic transmission
DLC	Data Link Connector diagnosis plug	EAI	Electronic advanced ignition, electronic ignition-curve
DLI	Distributor Less Ignition	EAS	Electronically Autonomous Starting system / Electronic Actuation System, Electronic Air Suspension VAG
DLK	Dynamic Steering Correction	EAV	Element shutoff valve. Part high-pressure in the Common Rail
DLOC	Device location	EBC	Electronic brake force control
DLS	Digital idle stabilisation	EBCV	Electrical Auxiliary Air Control Valve
DLWR	Dynamic headlight vertical aim	EBD	Electronic brake force distribution / differential
DM	Diagnosis module	EBM	Electronic brake management
DME	Digital Motor Electronic Motronic	EBS	Electronic Braking System
DMM	Digital MultiMeter	EBV	Electronic brake force distribution
DMS	Elongation measurement sensor	ECABS	Electronic air cushioning, combined with ABS
DMV	Diesel Solenoid Valve	ECC	Electronic climate control- Holden
DOHC	Double overhead camshaft	ECD	Electronic controlled acceleration
DP	Dashpot, Throttle valve closing damper	ECI	Electronically Controlled Injection
DPF	Diesel Particle Filter	ECM	Electronic Control Module system
DPFE	Delta pressure feedback electronic system. Differential pressure feedback, EGR	ECO	Ecotronic, system
DR	Pressure Regulator	ECONZ	Electronic carburettor and electronic ignition,
DRM	Pressure regulator module	ECT	Engine coolant temperature
DRS	Rotation rate sensor, sensor for vehicle dynamics	ECU	Electronic control unit
DRV	Pressure regulator valve	EDC	Electronic diesel control
DS	Pressure switch or sensor	EDG	Electronic diesel with integrated transmission control.
DSA	Dynamic Stability Assistance	EDIS	Electronic documentation and information system
DSB	Pressure Sensor in/for combustion chamber	EDIS 4	EEC IV with distributor less ignition system
DSC	Dynamic Stability Control	EDR	Electronic diesel control NFZ-DB
DSG	RPM target value sensor		
DSM	Drivers Seat Module		
DSP	Display/Dynamic Shift Program AT, Digital Sound		

LAUNCH TECH VICTORIA

EDS	Electronic differential lock	ELV	Electrical air valve / Electronic steering & or lock.
EDW	Electronic anti-theft warning system	EL-V	Electronic controlled carburettor
	Electronic pressure transducer	ELWIS	Electronic shop information VW
EEC	Electronic engine control or Electronic timing (Ford),	ELZ	Electronic ignition
EEC IV	Electronic engine control system IV (Ford),	EMAB	Shutoff by electromotor
EECS	Fuel vapour emission control Sys	EMB	Electromechanical brake
EEM	Electrical energy management. battery, voltage load etc	EMC	Electromagnetic compatibility
EEPROM	Electrically erasable programmable read-only memory	EMF	Electromechanical parking brake.
EES	Electrical energy systems 42V Converter Network Control	EMI	Injection volume indicator
EFI	Electronic fuel injection	EML	Electronic engine performance
EFP	Electronic accelerator pedal	EMR	Electronic volume reduction
EFS	Single-spark coil, supply 1 CYL	EMS	Electronic engine control
EGAS	Electronic accelerator pedal	EMSE	Electromagnetic start enable
EGD	Electronically regulated shock absorption	EMV	Electromagnetic compatibility
EGE	Electronic air dryer unit	ENG	Engine type (code) or Engine
EGN	EGn: EGAS control unit,	ENG FAIL	Engine failures, diagnosis line out putting errors
EGO	Exhaust Gas Oxygen Sensor,	ENR	Electronic level control
EGR	Exhaust gas recirculation	EOBD	European on-board diagnosis
EGS	Electronic transmission control	EOL	End of line programming
EHA	Electronic automatic heater,	EP	Adjustment Point
EHAB	Electro hydraulic shutoff	EPA	Environmental Protection Agency
EHB	Electro hydraulic brake	EPAS	Electric power-assisted steering
EHCM	Electro hydraulic control module	EPB	Electropneumatic brake Electronic Park Brake
EHPS	Electro hydraulic power steering	EPC	Electronic power control or Electronic pedal
EHR	Electro hydraulic lifting control	EPI	Exhaust Port Injection
EHS	Electro hydraulic control module	EPK	Electropneumatic kit
EHU	Entertainment Head Unit	EPRM	Erasable programmable read only memory,
EHSW	Electro hydraulic positioner	EPS	Extended park position,
EI	Electronic ignition	EPSV	Electrical injection adjustment
EKE	Electronic fuel injection,	EPT	Electronic pressure transmission
EKM	Electronic clutch management	EPW	Electro-pneumatic transducer signals convert to pneumatics
EKP	Electric fuel pump	ER	Energy reserve
EKRG	Simple short-circuit ring sensor	ERE	Electronic inline injection / Electrical regulator
EKS	Electronic clutch system. Auto Clutch No clutch pedal	ERW	Energy reserve voltage converter
ELAB	Electrical idle shutoff valve	ERWIN	Electronic repair & workshop information. VW
ELB	Electronically controlled brake	ES	Electronic control unit
ELD	Electrical load-peak damping	ESA	Electronic spark advance
ELF	Electronic air cushioning	ESA/IZA	Map ignition, Ignition coil in distributor
ELFI	Electronic vehicle identification. Audi / VW	ESC	Map ignition/ Electronic spark control-with knock Sensor
ELR	Electrical ignition with curve adjustment. Idle control	ESG	Electronic switching unit for trailers / Safety glass
ELRA	Electronic automatic restraint. Auto seat belts VW	ESGN	Special equipment,
ELS	Electronic idle stabilisation	ESL	Electronic steering lock.
ELSA	Electronic service information system. VW		

LAUNCH TECH VICTORIA

ESP	Electronic stability Program, vehicle-dynamics	EZF-I	Electronic ignition system with map & inductive
ESPV	Electrical injection adjustment	EZK	Electronic ignition>knock control
ESR	Electronic slip reduction, Electrical sunroof	EZ-K	Electronic ignition timing with knock controls
ESS	Electronic suspension systems.	EZL	Electronic ignition system + characteristic curves
ESSD	Electrical steel sunroof	EZL-H	Electronic ignition + characteristic curves, Hall
EST	Electronic spark timing, electronic map ignition	EZS	Electronic ignition switch
ESV	Feed valve or Injection valve	EZV	Electronic ignition timing
ETC	Electronic Throttle Control, Electronic Traction control	F/P	Fuel pump
ETKA	Electronic parts catalogue VW	FA	Front axle
ETM	Electronic transmission management,	FAB	Fail code Airbag. (Mazda)
ETS	Electronic traction control Electronic thermostat	FAC	Fail code Air Conditioning.
ETV	Electronic throttle valve	FAP	Accelerator pedal or Vehicle analysis protocol.
EU3	European exhaust-gas standard, Valid from 2000	FAS	Driver-assistance system
EU4	European exhaust-gas standard, Valid from 2005	FAT	Fail code Auto Transmission.
EUI	Electronic unit injector, injection nozzle of pump	FB	Remote control /Fast burn, Start-of-delivery diesel
EUP	Electronic unit pump, diesel pump>nozzle system	FBA	Parking-brake system (usually hand brake)
EURO3	European exhaust-gas standard, valid from 2000	FBB	Start-of-delivery blocking
EURO4	European exhaust-gas standard, valid from 2005	FBG	Start-of-delivery sensor
EUV	Electro-reversing valve	FBKW	Crankshaft angle at start-of-delivery
EV	Injection valve/Inlet valve of pressure control Abs	FBN	Start of delivery, normal
EV1	Injection valve for high pressure	FBR	Start-of-delivery control
EV2	Injection valve for low pressure	FBS	Fail code Brake Mazda , Driving Enabling System
EVA	Emergency valve assistance Electronic - full-load stop	FBV	Parking brake valve
EVAP	Fuel vapour emission control	FC	Fault (error) code
EVE	Electronic distributor injection	FCKW	Chlorofluorocarbon (CFC)
EVR	Electronic vacuum regulator	FCV	Fuel cell vehicle
EWD	Single-coil actuator, servomotor with one winding	FD	Date of manufacture
EWL	External warning lamp	FDI	Fuel direct injection, Gasoline Direct injection
EWM	Electronic selector-lever module.	FDR	Trip computer Vehicle dynamics control
EWMA	Exponential weighted moving average misfire detection during last 10 driving cycles	FDS	Ford diagnostic system
EWS	Electronic immobilizer	FE	Delivery units >determining fuel
EX	Exhaust valve, Exhaust manifold	FEC	Front Electrical Centre
EZ	Electronic ignition,	FEN	Fail code Engine. (Mazda)
EZE	Electronic central control unit	FES	Spark energy control
EZF	Electronic ignition system, map-controlled	FFG	Accelerator pedal
EZF-H	Electronic ignition system with map & hall sensor	FFR	Vehicle master computer control Instrument Immobilizer Voltage
		FGB/AGB	Speed limiter Automatic speed limiter
		FGB/GBA	Speed limiter Speed limiting system
		FGG	Speed sensor
		FGR	Speed control

LAUNCH TECH VICTORIA

FH	Power window	GGG	Transmission Group Switch
FHE	Road and obstacle detection	GHD	Housing cover
FHM	Power window motor	GID	Graphic information display
FI	Filter	GK	Glow plug
FICD	Fast-idle control device	GM	Basic module, /General Motors, / Gear motor
FIS	Vehicle information system.	GMA	Yawing moment build up delay
FKT	Function	GMR	Mixture regulator
FKTSCH	Function switch	GND	Ground
FLA	Spring-loaded idle stop	GPS	Global Positioning System, satellite system
FM	Vehicle management	GR	gr: large Gr: Group GR: \ Gas retention,
FMN	Delivery volume normal	GRA	Speed control system Cruise control
FMVSS	Federal motor vehicle safety std	GRV	Constant-volume valve
FN	Vehicle level	GS	Belt tensioner, Independent electronic transmission
FP	Accelerator pedal / Delivery pump	GS 1.2	Electronic transmission control,
FPK	Freely programmable combined instruments	GSG	Speed sensor
FPM	Accelerator pedal module	GSH	Gas sensor hydrocarbon
FPR	Fuel pump relay	GSK	Sheathed element glow plug
FR	FR signal: provides information re generator load.	GSM	Global system for mobile communications
FRS	Freewheel pulley	GSR	Belt tensioner,
FS	Driving-mode switch or Driver side	GSS	Transmission shift lock or Seatbelt buckle switch
FSD	Folding sunroof	GST	Stepped start volume
FSG	Chassis control unit/ Fill-level sens	GSY	Speed symbol. Specification on tyres for allowable speed
FSK	Frequency shift keying	GUS	Belt tensioner
FSR	Driving stability control	GW	Gateway PC connect/control data exchange between network
FSS	Delivery signal sensor, or Flexible service system	GWK	Transmission converter clutch
FTCO	Flat tachograph (new, flat design), Mercedes	GZS	Glow duration control unit
FV	Filling valve	H	h: hour H: hexadecimal No or stroke
FWA	Chassis analysis.	HA	Hydraulic stop or Rear axle or Hydraulic modulator for ABS
FWI	Vehicle-travel pulse number	HAC	Height compensation
FZ	Vehicle	HAI	Hot-air inlet
FZG	Vehicle	HAS	Hand brake switch
FZK	Vane compressor	HAU	Automatic heating
FZR	Vehicle controller, ESP system	HBA	Hydraulic brake assistant or Auxiliary brake system
G	g: Acceleration of gravity, or gram, G: G-signal : crankshaft signal for TDC	HBZ	Master brake cylinder
G/SEC	g/sec: grams per second, unit	HC	Hydrocarbon / High compression
G/ZYL	g/Zyl: grams per cyl, unit for mass per cylinder	HD	Heating wire or Lifting roof
GA	Basic adaptation or Guarantee	HDC	Hill Descent Control.> Works using brake intervention
GATES	Global automotive telematic Std	HDEV	High-pressure injection valve
GB	Yawing moment restriction	HDF	Remote boot-lid release
GBA	Seat belt positioner drive	HDI	High-pressure direct injection
GBR	Seat belt positioner	HDK	Half-differential short-circuit Ring travel sensor
GDB	Regulated differential brake		
GDI	Gasoline direct injection "Petrol"		
GDL	Gas pressure lamp (Audi)		
GDV	Constant pressure valve		
GEN	Generator		
GER	Germany		
GGF	ggf.: possibly, if necessary		

LAUNCH TECH VICTORIA

HDP	High-pressure pump	ICE	Ignition control electronics, electronic ignition system
HDS	Urea metering system to reduce soot emission “Diesel”	ICM	Ignition control module, or Integrated chassis management
HE	Main injection	ID	Identifier
HEGO	Heated exhaust-gas oxygen sensor	IDI	Indirect (diesel) injection
HEI	High performance ignition system Transistorized ignition	IDIS	Integrated driver information system, / navigation system
HEV	High-pressure injection valve	IDS	Interactive dynamic driving system
HF	High frequency	IFS	Inertia fuel shutoff. Independent front-wheel suspension
HFG	Hand-operated gas delivery, special for handicapped drivers	IFZ	Infrared central locking
HFM	Hot-film air-mass sensor /load detection via hot-film air mass	IG	Pulse or increment transmitter, or Ignition
HH	HH, 4/4 division of brake circuits: 1 & 2 Brake all wheels.	IHE	Integrated hydro electronics Hydraulic power unit “Citroen”
HHC	Hill Holder Control, ESP system component	IHKA	Integrated heating and air conditioning system (BMW)
HHT	Hand-held tester (such as X431 or KES200)	IHR	Heating control, usually
HIC	Hot idle compensation	IIA	Integrated ignition system
HID	Hill descent Sensor registers downgrades or vehicle rolling.	IKE / KOMBI	BMW Instruments Service light reset area
HK	Height correction	ILV	Integrated quiet-running system
HKD	High-voltage trigger diode, diode installed in ignition coils	IMA	Integrated engine assistant /Injector quantity analysis
HKZ	High-voltage capacitor ignition	IMM	Immobilizer
HL	Left rear	IMMO	Immobilizer
HLM	Hot-wire air-mass sensor	IMP	Pulse(s)
HO2S	Heated oxygen (O2) sensor	IN	Inlet (intake) manifold or valve
HP	Hydraulic pump	INA	Information display for ASR
HPA	hPa: hectopascal, physical unit	INFOANZ	Information display for ASR
HPDI	High pressure direct injection	INJ	Injector. Injection jet or valve in Common Rail diesel system
HPI	High-pressure injection. Direct-injection petrol	INT	Integrator
HR	Hybrid control, or Right rear	INZ	Central injection
HRA	Rear window washing system	IPBEC	Instrument Panel Body Electrical Centre
HSCAN	High-speed controller area network. CAN bus	IPS	Intelligent Protection System, eg integrated two-stage airbag
HSPV	Hydraulic injection timing device	IR	Infrared, Individual control Commercial-vehicle ABS
HSV	High-voltage distribution or Hydraulic start lock	IRF	Interior filter
HT	HT 4/2 division of brake circuits: 1 brakes all , 2 the front	IRM	Individual control, modified, with commercial-vehicle ABS
HU	Major inspection	IRS	Interior protection
HW	Hardware	ISA	Idle speed correction /Intelligent speed adaptation> Use GPS
HYAB	Hydraulic shutoff device	ISC	Idle speed control or Idle compensation
HZ	HZ Master brake cylinder Hz hertz	ISDN	Integrated Services Digital Network: digital telephone/data
HZR	Heating control Simple type A/C	ISF	Vehicle information system
I1	Incremental system with 1 sensor	ISIS	Intelligent safety system. Multiple airbag, Belt Tensioner & headrest
I2	Incremental system with 2 sensor	ISO	International Organization Std
IAC	Idle air control		
IC	Integrated circuit		
ICC	Intelligent cruise control, Nissan distance control system		

LAUNCH TECH VICTORIA

ISO-EGO Isolated Exhaust Gas Oxygen Sensor> Lambda sensor	reset area
ISO-HEGO Isolated Heated Exhaust Gas Oxygen Sensor Lambda	KOMP Component
ISS Integrated vehicle dynamic system	KPA kPa: kilopascal, physical unit
ISU Intelligent switching unit	KPN Kpn: Motronic (load detection occurs via intake manifold)
ITGS Intelligent traffic guidance system	KR Anti-knock control
IVLAN In Vehicle Local Area Network	KRF Kraftstoffrückführventil (Diesel)
IWG Inductive travel sensor	KRS Anti-knock control interface or Fuel return valve
IWZ Incremental angle/time sensor, rotation- angle sensor	K-RWG Short-circuit ring sensor
IZA Integrated ignition system	KS Fuel reservoir, or Knock sensor
IZV Infrared central locking	KSA Kingdom of Saudi Arabia
JET Jet, Jetronic: injection system,	KSB Cold-start accelerator, with distributor injection pumps
JOB D Japanese OBD	KSE Child-seat detector
JTS Jet Thrust Stoichiometric Direct- injection petrol engine	KSH Cold-start aid
K k: small K: channel K-line:	KSP Fuel reservoir
KA Knee airbag	KSS Cold-start control
KAM Keep-alive memory	KSV Cold-start valve
KAT Catalytic converter	KSZ Fuel distributor or distribution
KB Wire harness	KTF Fuel temperature sensor, or Coolant temperature sensor
KBZ Combination brake cylinder	KU Clutch
K-CAN Body CAN bus. Low-speed Comfort-System and Body	KU/GN Clutch/transmission neutral
KD Kick down or Customer service	KUKO Coupling head
KDS Kick down switch	KVA Fuel consumption gauge
KE Continuous injection	KVD Fuel evaporation
KE-MOTRONIC Continuous electronic Injection system	KVR Fuel distributor tube
KEN KEn: Jetronic, continuous, mechanical injection & Lambda	KVRS Evaporative emission-control regeneration system-tank vent
KF Fuel filter	KVRV Fuel evaporation regeneration valve, tank ventilation valve
KFB Fuel filter, petrol / Comfort zone	KVS Fuel distributor piece
KFMG Continuous delivery-volume meter	KW kW: kilowatt, crankshaft or crankshaft angle or shortwave
KFZ Motor vehicle	KWH kWh: kilowatt-hours,
KG Keyless Go (access to vehicle and engine start without key)	KWP 2000 Keyword Protocol 2000, log for transmitting diagnostic data
KG/H kg/h: kilograms per hour, unit	KWS Comfort immobilizer
KGE Crankcase ventilation	KX Kx: Jetronic, continuous, with oxygen sensor control
KIW Combined instruments with service- interval indicator.	KZS Capacitor intermediate storage
K-JETRONIC Continuous mechanical injection system, Bosch	L l: litre left L-line unidirectional
KL KL or KI: Terminal	L/H l/h: Litres per hour, unit
KLA Automatic climate control	L/KM l/km: litres per kilometre, unit
KM km: kilometre KM: small engine	LAM Idle emissions measurement
KMA Continuous volume analysis,	LAV Luxury activity vehicles
KMM Continuous volume Meter >Checks fuel delivery	LC Low compression, or Version with low compression ratio
KMMG Continuous volume meter close	LCD Liquid crystal display
KMV Refrigerant compressor	LDA Boost pressure-dependent full-load distributor inject-pump
KOM Commercial bus & rental vehicle	LDF Boost-pressure sensor
KOMBI BMW Instruments Service light	

LAUNCH TECH VICTORIA

LDR	Boost-pressure control, or Idle speed control	LRS	Load response start, alternative multifunction control
LE2-JET	Petrol injection, LE-Jetronic 2nd generation	LS	Release switch or Oxygen sensor
LED	Light-emitting diode	LSCAN	Low-speed controller area network. CAN bus
LEN	LEn: Jetronic, intermittent,	LSD	Limited-slip differential
LER	Idle limit-speed control	LSF	Oxygen sensor, planar flat sensor
LEV	Low-emissions vehicle.	LSH	Oxygen sensor, heated
LFB	Load-dependent start-of-delivery, distributor inject- pumps	LSM	Oxygen sensor for lean operation
LFR	Idle compensation	LSP	Longitudinal lock shutoff
LFT	Air temperature sensor, or Long (term) fuel trim "LTFT."	LSU	Wideband oxygen sensor, planar
LHA	Air-side automatic heater	LSZ	Light-switching centre
LHD	Left-hand drive	LT	Model of / for VW Transporter
LH-JETRONIC	Same as L-Jetronic with hot-wire air-mass sensor	LTCC	Low temperature co-fired ceramic multilayer ceramic technology
LHN	LHn: Jetronic with hot-wire air-mass sensor, intermittent,	LTF	Air-temperature sensor
LI	(also li:) Left,/ Load index, number indicating tyre capacity	LTFT	Long-term fuel trim (to counteract aging symptoms).
LIA	Lift axle	LTG	Line
LIM	Sedan	LTR	Litre, physical unit, also ltr, L
L-JETRONIC	Electronically controlled injection direct air mass measure	LUN	LUn: Jetronic, intermittent, with USA functionality,
LKE	Load piston unit	LWL	Optical fibre
LL	Idle, engine operating state or Left-hand drive or LL division of brake circuits: 2 circuits in front, one in rear	LWR	Headlight vertical aim control
LLDRAN	Idle speed increase	LWS	Steering wheel angle sensor
LLK	Charge-air cooling	M	M: Motronic, Mechanical/ fan Centre m: Centre or Manual
LLR	Idle control >diesel systems	M/S2	m/s ² : meters per second per second, unit for acceleration
LLRA	LLRa: Idle control with adaptive pilot control	M3/H	m ³ /h: cubic meters per hour, unit
LLS	Idle actuator, or Idle switch	MA	mA: milliampere Mono-Motronic, petrol injection system
LL-STAB	Idle stabilization	MAEL	MaEl: earth (ground) electrode (spark plug)
LM	Air-flow sensor (also LMM)	MAF	Mass airflow sensor
LMF	Light-alloy rims	MAP	Manifold absolute pressure or Intake manifold pressure sensor
LMM	Air-mass sensor, or Air-flow	MAR	Quantity compensation control
LMS	Air-mass sensor	MAS	Control unit for engine assembly
LN	Ln: Jetronic with air-flow sensor, Intermittent, n=version,	MAT	Manifold absolute temperature
LOS	Emergency program (EEC IV)	MAX	Maximum
LP	Perforated plate	MBAR	mbar: millibar, physical unit
LPG	Liquefied Petroleum Gas,	MBS	Engine-brake switch
LPS	Circuit board circuit	MBZ	Diaphragm brake cylinder
LR	Oxygen sensor control	MC	Microcomputer or Medium compression
LRA	LRA: oxygen sensor control with adaptive pilot control	MCC	Micro Compact Car
LRD	Load response drive, alternative multifunction control	MDA	Engine speed increase
LRR	Smooth-running control, or Long-range radar	MDF	Mass of wheel-speed sensor, indication of sensor (left front, right front, etc
		MDR	Membrane pressure control
		ME	Motronic with electronic gas pedal, volume regulation diesel

LAUNCH TECH VICTORIA

MEAB	Mechanical shutoff device diesel EDC new system shutoff electric	MLA	Multiple link antitheft system (system- wide theft protection)
MECH.	Mechanical	MLD	Mechanical load-peak damping
MED	Motronic with ETC and petrol direct injection	MLN	MLn: Motronic based on air-flow sensor, n=version, usually proper name.
MEG	Motronic with ETC and transmission control	MM	mm: millimetre
MEINS	Meins: Injection volume mg/stroke or mg/s	MM3/H	mm ³ /H: cubic millimetres per stroke, unit
MEN	Monitor engine (output line for engine diagnostic data)	MMI	Engine torque, actual value or Man- machine interface (Porsche)
MEP	Mean effective pressure	MMM	Multipath map matching Gps
MES	Mechanically enabled start	MMS	Engine torque, nominal value
MF	Measurement window	MMV	Quantity solenoid valve
MFA	Measurement window, start or Multifunction display	MN	Mn: Motronic, universal load detection (HLM, LM),
MFD	Multifunction display	MNEFZ	Modified new European driving cycle (exhaust)
MFE	Measurement window, end	MODIC	Mobile diagnosis computer (BMW diagnostic tester)
MFI	Multipoint fuel injection	MOLIS	Modular lights system LEDs in modular system rear light Bmw
MFI-C	Continuous multipoint fuel injection (electronic)	MOST	Media oriented system transport. Usually in conjunction with a bus system
MFI-I	Intermittent multipoint fuel injection (electronic)	MOT	Engine tester, product name (Bosch) or Engine test
MFI-S	Sequential multipoint fuel injection (electronic)	MOT/DME	Digital Motor Electronics
MFL	Multifunction steering wheel	MOZ	Engine octane number. Expresses the knock resistance of petrol
MFR	Multifunction control	MP	Motronic with intake manifold sensor
MFS	Multifunction sensor	MPA	MPa: megapascal, physical unit
MFU	Multifunction clock	MPFI	Multi-point fuel injection
MG	Manual transmission	MPH	mph: Miles per hour
MG/H	mg/H: milligrams per stroke, unit	MPI	Multi-point injection, fully electronic engine control
MG/ZYK	mg/Zykl: milligrams per cycle	MPN	MPn: Motronic load detection is via intake manifold pressure
MGND	Engine ground (earth)	MPV	Multi-purpose vehicles
MHDI	Mechanical high-voltage distribution ignition	MR	Engine relay or Engine control
M-HEAT	Mirror Heating	MR-DF	Speed sensor with magneto-resistive measurement
MI	mi: Miles, MI: Malfunction indicator or Main injection	MRS	Multi-restraint system. Temic or BMW system consisting of belt tensioner, belt force limiting, airbags, & safety battery terminal
MIC	Microplex (Marelli)	MS	ms: millisecond,: Engine control or Diesel systems with electronic volume
MICROPLEX	Fully electronic ignition system with knock control	MSA	Designation diesel injection system with electronic volume
MID	Multifunction information display	MSCAN	Medium-speed controller area network. CAN bus
MIEL	MiEI: Middle electrode (S/ plug)	MSG	Engine control unit
MIL	Malfunction indicator lamp	MSR	Engine drag torque control
MIN	Minimum,		
MIU	Main Instrument Unit		
MJ	Mono-Jetronic, or Model year		
M-JET	Mono-Jetronic,		
MK	Motronic continuous fuel metering		
MKV	Multiplicative map adjustment, or Fuel ratio mixture		
ML	Motronic with flap air-volume sensor, usually proper name		

LAUNCH TECH VICTORIA

MST	Measurement and control unit	NM	Nm: Newton-meter, physical unit
MSTS	Microprocessor spark timing System electronic ignition & map	NM/S	Nm/s: newton-meters per second
MT	Manual trans or Mechanical transmission or Volume divider	NMOT	Nmot: Engine RPM
MTCO	Tachograph	NOE	Nitrogen oxide emission
MTM	Engine measurement technology module	NOX	NOx: Nitrogen oxides
MUD	mUD: With vacuum	NPB	Special tester for injection pumps
MUX	Multiplexer or multiplex signal	NR	Number, or Level control, or Natural rubber
MUXPORT	Multiplexer-Port	NRZ	NRZ format: Non-return-to-zero, Transmission control pulse form square-wave pulse input
MV	mV: millivolt, physical unit MV: Solenoid valve	NS	Fog light(s)
MVEG	Motor vehicle emission group exhaust-gas classification for passenger cars	NSW	Fog lights
MVL	Lift axle valve with electronic air-cushioning system	NTC	Negative temperature coefficient, (Thermal resistor)
MVLDR	Solenoid valve for boost pressure control	NTC II	Idle speed increase
MVN	Level valve with electronic air-cushioning system	NTC1	Intake air temperature (in °C)
MVS	Solenoid valve control unit	NTC2	Engine water temperature (in °C)
MW	AM (radio), or Measurement	NVF	Navigation and traffic control
MY	Model year	NW	Camshaft
MZ	Magneto ignition	NWS	Camshaft timing
MZV	Microprocessor-controlled ignition adjustment	O2	Oxygen
N	n: RPM, or normal N: Selector-lever position (Neutral) for auto trans	OAI	Octane adjust input
NA	Auxiliary drive	OBD	On-board diagnostics or off-board diagnostics,
NAS	Auxiliary drive switch	OBF	Upper control panel. Above or on the dashboard,
NAV	Navigation or Navigation system	OBM	On-board measurement
NB	Commercial-vehicle brake	OC	Oxidation catalytic converter
NBE	Proximity detector	ODFT	Sensor for oil pressure & temper
NBF	Needle lift sensor (diesel)	ODS	Automatic overdrive control
NBS	Needle lift sensor (diesel)	OEDS	Oil pressure switch
NDS	Neutral drive switch, activated when auto transmission lever in neutral	OEF	Locate missing vehicles via GPS
NE	NE: After-injection Ne-Signal: Engine RPM signal,	OEM	Original equipment manufacturer
NEDC	New European driving cycle	OES	Original equipment service.
NEFZ	New European driving cycle	OFFSET-V	Voltage offset
NF	Low frequency, / audio frequency	OG	Upper limit or Upper tolerance
NFZ	Commercial vehicle (lorry, truck)	OHC	Overhead camshaft. Camshaft situated above the cylinder head.
NHG	Needle-displacement sensor (diesel systems)	OHV	Overhead valves (the camshaft is therefore underneath)
NHU	Navigation head unit. Opel navigation control unit.	OMM	Surface micromechanics
NKW	Lorry (truck)	OOP	Out-of-position detection
NKW-ABS	Anti-blocking system for (trucks) with air brakes	OP	Oil pump
NLEV	National low-emission vehicles.	OPC	Opel Performance Centre.
NLK	Follow-on piston	OR	Logical OR operation
NLS	Needle lift sensor (diesel)	OSRVM	Outside rear-view mirror
		OT	Top dead centre
		OTA	Oxygen/titanium emissions sensor. Titanium oxide sensor
		OTF	Oil temperature sensor
		OUD	oUD: Without vacuum
		OUT	Designation on diesel pump for excess-flow restriction screw

LAUNCH TECH VICTORIA

OZ	Octane rating. See also ROZ.	P-IN	p-in: Delivery pressure
OZA	Oxygen/zirconium emissions sensor Zirconium oxide sensor.	PIP	Profile ignition pickup, ignition output circuit Signal of Hall Ford
P	Pressure, or Power train Eg(used with OBD error codes)	PJ	Pilot-Jection
PA	Parking assistant Pa: pascal,	PKW	Passenger car
PAG	Polyethylene glycol oil, low- temperature oil	PL	Pressure low, low pressure
PAM	Parking assistant module (Opel)	PLA	Pneumatic idle increase or Pneumatic idle stop
PANS	Pans: Intake air pressure (in hPa)	PLD	Pump-line-nozzle diesel injection technique (designation is UPS)
PAS	Peripheral airbag sensor (side airbag)	PLR	Pneumatic idle speed control
PASE	Passive start and entry. Keyless access to car & engine start Keyless Go	PM	Pump motor
PATA	Passive button: in vehicle with which a function can be set to the passive (off)	PML	Parametric steering assisted vehicle. Parameters stored in control unit.
PATS	Passive anti theft system	PMR	Private mobile radio
PB	Pb: chemical symbol for lead	PMS	Engine control with load detection via intake-manifold pressure
PBM	Pulse width modulated, signal processing method	PNAB	Pneumatic adjustment device
PBSL	Park brake shift lock. Selector lever lock for automatic transmission	PNABU	Pneumatic adjustment device vacuum-operated (Bosch KH)
PC	Power control or Personal computer	PNABUE	Pneumatic adjustment device, pressure-operated
PCM	Power train control module/ Porsche Comm-Management, central multimedia	POBSY	Pedestrian protection optimised bumper system energy absorbing foam
PCU	Pump control unit (diesel systems) Power control unit hybrid-drive control	POI	Post-injection.
PCV	Positive crankcase ventilation, closed crankshaft ventilation	POTI	Potentiometer, variable resistance
PD	Pump-nozzle	PPM	ppm: parts-per-million, unit
PDAS	Dynamic 4-wheel control	PPS	Pedal position system, or Pedal position sensor
PDC	Park distance control. Parking aid, or Pre-drive check (testing of EHB systems)	PRG	Program
PDE	Pump-nozzle unit (new designation is UIS)	PROG	Programming input
PDM	Passenger door module (Opel)	PROM	Programmable read-only memory
PDOE	Nozzle opening pressure PEHKS Pedestrian protection hood kinematics system. Raises the hood in crashes	PRS	Programmed restraint system. Reduces the seat-belt tension L> injuries
PES	Polyellipsoid system (headlight technique)	PS	Test step, Pump control, Horsepower unit of work performed by motor
PES-SW	Polyellipsoid headlight(s)	PSD	Pump control with diagnosis or Porsche limited-slip differential,
PFA	Particle filter system	PSE	Pneumatic system electronics, electronically controlled pneumatic
PFI	Port fuel injection, inlet-channel injection	PSG	Pump control unit
P-FP	p-FP: Delivery pump pressure.	PSI	psi: Pounds per square inch,
PG	Phase sensor	PSM	Porsche Stability Module. Porsche designation for ESP.
PH	Pressure high, high pressure	PSP	Power steering pressure
PHI	phi: Greek letter>designate angle	PSPS	Power steering pressure switch
PHS	Park heater system	PSV	Partial intake manifold preheating
PI	Pilot injection.	PT	Power train
PID	Parameter identifier, part of Carb	PTC	Positive Temperature Coefficient (Thermal resistor)
		PT-CAN	Power train CAN bus. High-speed CAN bus for drive-train electronics.
		PTS	Park-Tronic System. Parking aid.

LAUNCH TECH VICTORIA

PV	Testing instruction	RHD	Right-hand drive
PVS	Vacuum switch	RHO	rho: Greek letter, represents density (kg/m ³)
PWG	Pedal position sensor	RHV	Static high-voltage distribution
PWL	Power window lifter	RIV	Control pulse method (diesel)
PWM	Pulse-width modulation, special signalling form used to determine pulse-duty factors on components	RKS	Tire check system
PWR	Pulse rectifier	RL	Right-hand drive
Q	Quantity, usually of fuel	RLDM	Rear Left Door Module
Q1	Fuel quantity for cylinder 1. Similarly Q2, Q3, etc.	RLFS	Fuel supply system without reverse flow
Q-AVG	Quantity average. Mean of (fuel) quantity of all cylinders	RLV	Reverse-flow valve
QB	Quality assessment	RM	Reference mark
QGS	Quick glow system. Rapid pre-heating system for diesel engines	RME	Rapeseed methyl ester alternative fuel
QHS	Quick heat system. Rapid diesel pre-heating system.	ROM	Read-only memory. Program memory of processor
QM	Quality management	RON	Research octane number
Q-OVER	Q-over: Overflow quantity	ROPS	Rollover protection system. Automatically extendable roll bar
QS	Quality assurance	ROV	Rotating high-voltage distribution
QSF	Average function	ROZ	Research octane number
QSL	Quasi select low	RP	In-line pump,
QUADR	Quadrifoglio, Alfa Romeo	RPA	Flat tyre indicator
RA	Rear axle, or Argentina	RPM	Revolutions per minute
RAIL	Common Rail, high-pressure distribution line with Common Rail diesel	RRDM	Rear Right Door Module
RAM	Random access memory, read/write memory of a processor	RS	Restraint system or Rotational speed sensor
RAS	Rear-axle steering. Actively steered rear axle used in buses	RSC	Run-flat system component. Tyres with emergency-running properties.
RB	Robert Bosch	RSD	Backflow throttle
RC	Remote control	RSV	Check valve, prevents undesired reverse-flow of liquids or gases
RDK	Tire pressure check system,	RTI	Radio Traffic Information,
RDS	Rail pressure sensor or Radio data system	RTR	Reverse-flow temperature control
RDU	Tyre pressure monitoring	RU	Soot concentration in exhaust
RDV	Reverse-flow throttle valve	RUE	Soot emission
RDW	Rest of the world (group in exhaust-gas classification)	RUEF	Retrofit vehicle
RE	Right (often "re") or Inline injection pump	RUM	Soot amount
REA	Resonance detection	RUV	Static high-voltage distribution,
REC	Rear electrical centre (Opel)	RW	Control travel
REL	Relay	RWAW	Control-travel evaluation circuit
RF	Radio frequency, radio signal	RWD	Rear wheel drive
RFP	Return pump	RWG	Control-travel sensor
RFS	Backup light(s)	RX	Receive line
RFT	Run-flat tyre. Special tyre that can also be used in emergency.	RZ	Wheel brake cylinder
RG	Route guidance (Travel Pilot)	S	S: Sensor, or super (premium) grade fuel, or sport program AT
RGS	Route guidance standalone Travel Pilot as standalone system	SAC	Self-adjusting clutch. Transmits only the current engine torque
		SACV	Secondary air control valve
		SAE	Society of Automotive Engineers
		SAM	Safety (or signal detection) and triggering module. Mercedes
		SAS	Side-impact protection

LAUNCH TECH VICTORIA

SAT	Siemens adaptive transmission	SFT	Short (term) fuel trim (lambda-parameter correction). See STFT
SAV	Overrun cut-off valve, or Sport activity vehicles (BMW X5)	SG	Control unit
SB	Start-of-injection, indicates when fuel injection actually starts	SHD	Sliding or lifting sunroof
SBB	Disc-brake lining	SHR	Select-high control for commercial-vehicle ABS systems. The pressure level is geared to the wheel running with the higher coefficient of friction.
SBC	Sensotronic Brake Control, part of EHB (electro-hydraulic brake)	SHZ	Heated seat
SBE	Seat-occupied detection	SI	Speed index (code letter for speed), or Silicon
SBK	Safety battery terminal Part of airbag system In the case of an accident, the battery is rapidly disconnected from the starter cable to prevent shorts	SIA	Service interval indicator.
SBR	Start-of-injection control	SI-BUS	Safety and information bus
SBS	Speech-based operation system	SID	System Information Display
SCHALT	Switch	SIDC	Sid Controller
SCHR	Steps, >stepping motor	SIL	Seat electrical system, left
SCI	Smart-charged injection. Petrol direct injection (Ford)	SILA	Signal lamp
SCL	Steering Column Lock	SIM	Safety information module. Component of ISIS system (BMW)
SCP	Serial Communication Protocol	SIPS	Side-impact protection system V
SCS	Stability control system Simplified form ESP Mitsubishi Prevents tilting/skids	SIR	Seat electrical system, right.
SCU	Sensor & control unit > integrated radar sensor component of ACC.	SIS	Service Information System Series repair
SD	Intake manifold pressure Sunroof Injection duration Control unit diagnosis	SKF	Spike characteristic. Relates to Porsche transmission controls.
SDI	Intake Diesel Injection	SKO	Compressor signal
SDL	Service diagnosis line, product designation for test line (Bosch)	SKT	Scale units
SDM	Sunroof motor or/Control unit diagnosis module Sensing & Diagnostic Airbag	SL	Select low
SDS	Intake-manifold pressure sensor	SLA	Safety lamp
SDW	Signal from anti-theft warning system	SLE	Secondary-air injection
SEC	Seconds -Time	SLM	Shift lever Module
SEFI	Sequential fuel injection	SLP	Secondary-air pump
SELECT HIGH	Select-high control for commercial-vehicle ABS systems. The pressure level is geared to the wheel running with the higher coefficient of friction.	SLR	Select-low control 4 commercial-vehicle ABS Use: Tyre coefficient of friction
SELECT LOW	Select-low control with commercial-vehicle ABS systems. Pressure level depends on wheel running with the lower coefficient of friction	SLS	Secondary-air system
SET CONTROLLER	Program command related to controller	SM	Seat memory, or Stepping motor
SFI	Sequential multipoint EFI	SME	Stepping-motor electronics
		SNA	Automatic momentum utilisation
		SNR	Part number or Record number
		SO	Safety switch, normally closed
		SO2	Sulphur dioxide In exhaust gases.
		SOHC	Single overhead camshaft
		SOP	Start of production
		SP	Safety testing, >for brake system
		SPA	Mirror drive/ Sonic Park Assist
		SPI	Single point injection
		SPL	Sound-pressure level - Noise L
		SPM	Mirror memory
		SPOR	Sporadic
		SPOUT	Ignition signal (EEC IV) Ford
		SPS	Solar Position Sensor
		SPV	Injection adjustment
		SR	Side-based control

LAUNCH TECH VICTORIA

SRA	Headlight wiper system		adjustment
SRE	Intake-manifold injection	TAC	Test Air Conditioning. Excitation lead for air conditioner (Mazda)
SRM	Sun Roof Module or Headlight wiper motor	TANS	Tans: Intake air temperature °C
SRS	Safety Restraint System “Airbag and seatbelt tensioners”,	TAS	Temperature dependent control, with distributor injection pumps, or Temperature dependent start-volume, with distributor injection pumps
SS	Safety Switch	TAT	Test Automatic Transmission. Mazda device
SSA	Automatic start/stop	TAU	Automatic temperature system
SSD	Steel sliding sunroof	TBB	Drum-Brake -Shoes
SSG	Seat control unit (Mercedes)	TBI	Throttle Body Injection,
SSHD	Steel sliding/lifting sunroof	TBS	Test Brake System. ABS system (Mazda)
SSS	Stop/start system	TC	Traction Control
SST	Special tool /Self-supporting tyre, which supports itself & features limp-home	TCE	Trailer Central Electronic towing
SSU	Triggering device for side airbag	TCM	Transmission Control Module
ST	System tester	TCO	Tachograph -Mercedes
STAE	Start external, external start switch	T-COMP	T-comp: Compression tempera
STAT	Static	TCS	Traffic Centre Service
STC	Stability and traction control	TCSA	Temperature Controlled Spark Advance
STFT	Short-term fuel trim (for lambda-parameter correction.	TCU	Transmission Control Unit
STH	Stationary-vehicle heater	TD	TD: Time Division, engine load signal for transmission control
STI	Self-test input signal	TDC	Top Dead Centre
STM	Servomotor	TDI	Turbo Diesel Injection
STO	Self-Test Output -Signal	TDS	Tank pressure sensor
STOE	Stop external, external stop switch	TEC	Total Electronic Control
SULEV	Super Ultra-Low Emissions Vehicle	TEE	Tank installation unit
SUS	Slip threshold switchover	T-EIN	Build-up time (ignition)
SUV	Sport utility vehicles.	TELE-AID	Telematic alarm identification on demand accident notification
SV	Servo valve, Start valve or Injection adjustment	TEMP	Temperature
SVC	Saab variable compression. Speed volume control. “Car radio.”	TMS	Telematics
SVG	Seat adjustment transmission	TEMP. SCH.	Temperature switch
SVM	Seat adjustment motor	TEMPF	Temperature sensor
SW	Headlight(s) or Software	TEN	Mazda Test Engine device
SWA	Headlight washer	TES	Thermo-electric switch Tank ventilation system
SWC	Steering Wheel Control	TEV	Tank ventilation valve or Thermostatic expansion valve Heating/Air Con
SWD	Vibration damper	TF	Temperature sensor
SWT	Side wall torsion sensor. Detects longitudinal and transverse forces directly at the wheel during acceleration, braking, and in curves.	TFA	Test of radiator fan
SZ	Coil ignition, Diesel fuel rating	TFI	Electronic ignition switch (EEC)
T	t: (such as t-adj., time of adjustment) T: temperature / compression temp	THS	Toyota hybrid system.
T.C.S.	Ignition timing control system	T-HYBRID	Hybrid temperature
T.O.C.S.	Throttle valve control system	THZ	Tandem master cylinder. Master brake cylinder hydraulic brakes.
TA	Traffic announcement, or Thorax airbag (BMW)	TI	ti: Injection signal (t=time, i=ignition)
TAB	Test Airbag. Lead (Mazda)	TID	Test identification data or Triple Info Display, driver information system
T-ABGLEICH	t-adjust: time of	TIM	Time impulse

LAUNCH TECH VICTORIA

T-IN	T-in: Inflow temperature (actual) T-in (nom.) Nominal inflow temperature	T-TOTAL	t-total: Total measurement
TIPTRONIC	Electronic transmission Control device on steering wheel	TUEV	German vehicle-inspection authority
TKRAFT	Fuel temperature (in °C)	TV	TV: Timing valve tv: Offset time of oxygen sensor control
TKU	Technical customer documentation	TVA	Temperature dependent full-load stop
TL	tl: Engine load recorded over time TL: Partial throttle, engine operating state	T-VIS	Toyota variable intake system (cut-in at 4500 rpm in 16-valve engines)
TLA	Temperature dependent idle increase, with distributor injection pumps	TVS	Temperature dependent vacuum switch, Thermal vacuum switch
T-LASTPUNKT	Time of load point	TVSV	Temperature dependent vacuum switching valve
TLEV	Transient low-emissions vehicle	TWA	Twin-wheel axle. Duel wheels .
TLK	Temperature dependent idle correction	T-WAIT	t-wait: Wait time
TMB	Door module, passenger side	T-WARTE	Wait time
TMC	Traffic Message Channel {Radio}	TWC	Three-way catalytic converter
T-MESS	Time or duration of measurement	TX	TX line: Transmission line
TMF	Door module, driver side	TZ	Transistor coil ignition with hybrid component
TMOT	Engine coolant temperature (in °C),	TZ-H	Transistor ignition with Hall sensor
TMS	Telematic system	TZ-I	Transistor ignition with inductive sensor
TN	tn: Signal from ignition with inductive peaks suppressed. RPM / Speedometer	TZS	Thermal time switch
TNA	Signal output for engine speed.	U	Below, underneath or Voltage
T-OFFSET	Time offset	UAM	Ultrasonic Alarm Module
T-OVER	T-over: Overflow temperature	UB	Battery voltage, Supply terminal 30
TP	Throttle valve potentiometer	U-BATT	Battery voltage
TPM	Tyre Pressure Monitoring or cruise control	UBF	Lower control panel Near the gearshift lever / below the radio,
TPMS	Tyre pressure monitoring system, pressure & temp sensors at wheel	UBL	Brake-light voltage
TPS	Throttle Position Sensor	UCL	Understeering control logic. ESP system used in Renault Megane.
TQ	Time quantity (usually TQ signal). Fuel consumption signal.	UDB	Vacuum limiter
TR	TR: RPM information, or contact roller, : Calculated RPM signal	UD-F	Vacuum adjustment EARLY
TRACS	Traction control system	UD-MODUL	Vacuum module. Valve for switching and measuring intake manifold pressure
TRUST	Trundle stability	UDS	Accident data memory (VDO), similar to black box in aircraft
TS	Temperature switch or Twin spark, double-spark ignition	UD-S	Vacuum adjustment LATE
TSG	Tank level sensor or Door control unit	UEC	Under hood Electrical Centre Opel for engine-compartment electronics module
TSH	Door lock heater	UEDS	Excessive-speed switch
TSP	Trailer stability program, ESP for SySt trailers, prevent trailer skid	UEGO	Universal Exhaust Gas Oxygen sensor non-heated Oxygen sensor
TSS	Thermal protection switch	UERB	Rollbar
TSU	Speedometer signal transformer	UEV	Excessive-flow valve
TSZ	Transistor coil ignition with discrete components	UG	Lower limit, Lower tolerance
TSZ-H	Transistor coil ignition with Hall	UIS	Unit injection system, new designation for PDE systems diesel injection
TSZ-I	Transistor coil ignition with inductive sensor	U-KAT	Unregulated catalytic converter (without oxygen sensor control)
TSZ-IZA	Transistor ignition with ignition coil in distributor	ULEV	Ultra-low emissions
TT	TT division Black-and-white divi of brake circuit front & rear		

LAUNCH TECH VICTORIA

ULW	Ultra lightweight	VKS	Variant coding with plug
UM	Reversing valve (for ASR operation)	VL	Left front, or Full load, engine operating state
UMTS	Universal Mobile Telecommunications System.	VLP	Preliminary charge pump
UNI1	UNI2, Additional lines on universal adapter cable, used to read out flash codes	VM	Adjustment motor or Combustion engine
UPA	Ultrasonic parking assistant	VOCS	Voice control system
UPS	Unit Pump System, new designation for PLD systems	VP	Distributor pump
URS	Rollover sensor, US USA	VPC	Volvo Personal Communicator. SCC Element with fingerprint sensor
USB	Universal serial bus.	VR	Right front or Distributor pump with radial piston
USG	Non-interrupting manual transmission. Two clutches (drive-off and load-shift)	VRD	Vario nozzle>variable radius
USV	Change-over valve	VRM	Valve feedback
UT	Bottom dead centre	VRS	Relay supply voltage
UUV	Urban Utility Vehicle	VSA	Vehicle stability assist. System
UV	Ultraviolet	VSC	Voltage supply control. Battery management system (Mercedes)
UVR	Voltage at valve relay	VSG	Composite safety glass
UVS	Roll bar & variable sunroof control	VSO	Vehicle speed out
UW	Voltage converter	VSS	Vehicle speed sensor Vehicle security systems Volts peak-to-peak, VSV Vacuum switching valve
UZ	Voltage after ignition terminal 15	VT	Vacuum transducer
V	V: Volt, Carburettor engine/ valve/ viscose, or fan, or front v: Front, or velocity	VTG	Variable turbine geometry. The turbine has movable guide blades, which can be varied depending on the operating state of the vehicle. A turbocharger with variable turbine geometry offers the advantage that it is more responsive than a conventional turbocharger with fixed turbine geometry.
V/MS	V/ms: volts per millisecond, unit for voltage per time.	VTV	Vacuum transmitting valve
VAC	Variant coding	VVA	Variable valve actuation valve control between cams & valves Operates Electro hydraulically. Duration & width of opening can be varied
VAF	Air-flow sensor	VVC	Variable valve control
VAG	Volkswagen AG	VVL	Variable valve lift
VAKU-SCH.	Vacuum switch	VVW	Variable valve displacement
VAN	Vehicle Area Network.>Bus	VW	Compensating resistor or VW
VANOS	Variable camshaft timing	VZ	Electronic ignition timing with static distribution
VARILIS	Variable lighting system	VZ-K	Electronic ignition timing with static distribution & knock control
VAT	Intake-air temperature sensor	W/M2	W/m ² . Watts per square meter. Physical unit for solar radiation intensity
VC	Variant coding	WAA	Wiper blade
VCV	Vacuum control valve	WALA	Safety lamp
VD	Choke valve	WDS	World diagnostic system (Ford)
VDC	Vehicle distance control or Vehicle dynamics control	WE	Water injection
VDV	Vacuum delay valve	WEBER	Weber petrol injection
VE	Distributor injection pump (WFS	Immobiliser
VERD	Verdeck (Cabrio)	WHA	Water-side automatic heater
VES	Full electronic radio ignition key	WIG	Wiper pulse transmitter
VEZ	Fully electronic ignition system		
VFD	Vacuum fluorescence display		
VFR	Variable focus reflector headlight		
VGWX	Preset value if sensor fails		
VIM	Vehicle immobilizer		
VIN	Vehicle identification number, code stored in control unit		
VIS	Variable Intake System (Rover)		
VK	Valve body		
VKP	Programmable variant coding		

LAUNCH TECH VICTORIA

WIV	Service interval extension.-use of special oils performed at greater interval VW	ZOT	Cylinder top dead centre
WK	Converter clutch	ZRE	Zaire
WL	Warning lamp	ZS	Ignition coil
WLR	Warm up control	ZU	Intermediate inspection
WR	Warm up control or Warning lamp relay	ZUS.LUFTP.	Auxiliary air pump (secondary air injection)
WS	Wiper or Travel sensor	ZV	Central locking or Ignition distributor or Ignition timing adjustment
WSA	Wiper system	ZVM	Central locking module
WSG	Separate control unit	ZVN	Central valve level adjustment
WSH	Wiper lever	ZW	Between
WSK	Converter clutch used in semiautomatic transmission	ZWD	Two-coil actuator (servomotor with two coils)
WSKS	Converter clutch switch	ZWG	Intermediate transmission
WSM	Wiper motor	ZWS	Accessory for immobilizer
WSS	Window screen system. type of night-vision unit Daimler Chrysler	ZWV	Ignition timing adjustment
WSZ	AC ignition	ZYL	Cylinder
WT	Heat exchanger	MIN	Per minute, usually RPM,
WTF	Water temperature sensor	°C	Degrees Celsius, physical unit
X	X division Brake	°DK	Degrees throttle-valve angle,
	Circuit: 1 circuit left front & right-rear, right-front & left Rear	°F	Degrees Fahrenheit, physical unit
XE	Extreme economy Select option for extremely economical driving AT	°KW	Degrees crankshaft, physical unit
XS	Extreme sport Selection option for extremely sporty driving with AT	°NW	Degrees camshaft, physical unit
YRS	Yaw rate sensor Component ESP	1/CM3	1/cm ³ , per cubic centimetre, unit
Z.Z.	Currently, at the moment	1L	Axle 1 (usually front axle), left
ZA	Ignition suppression	1R	Axle 1 (usually front axle), right
ZAB	Central display & operating unit	2L	Axle 2, left side
ZAS	Cylinder shutoff	2R	Axle 2, right side
ZBR	Central vehicle computer	2WD	2-wheel drive
ZDA	Intermediate RPM stop	3L	Axle 3, left side
ZDE	Intermediate RPM adjuster	3R	Axle 3, right side
ZDR	Intermediate RPM control	4WAS	Four wheel anti skid, traction control system for four-wheel drive vehicles, refer also to ASR
ZDT	Cyclical nozzle	4WD	4-wheel drive
ZE	Central injection/Central electronics	4WS	Four-wheel steering. All 4 wheels are steered, not just the front
ZEE	Central injection unit, Mono-	4X4	Vehicle with 4 wheels, all of which are driven (all-wheel drive).
ZEV	Zero-emissions vehicle.		
ZGM	Central gateway module		
ZGW	Central gateway computer connect & control data exchange		
ZK	Ignition circuit (airbag system)		
ZKO	Ignition capacitor		
ZLS	Auxiliary air slider		
ZLV	Auxiliary air valve		
ZME	Trim unit. Control for the high-pressure pump Common Rail		
ZMS	Two-mass flywheel		
ZNPB	Central delivery volume normal		
ZOS	Zero offset disc brake (no residual drag moment)		

LAUNCH TECH VICTORIA

LAUNCH TECH VICTORIA

European Abbreviations

A - processed vehicle speed signal	AT - remanufactured part (from ETK)
A - "out" (Aus)	AT - Antenna (from ETK)
AB - Airbag	ATF - Automatic Transmission Fluid (from ETK)
ABL - Brake system warning Lamp (2 color)	ATL - exhaust gas turbo charger (from ETK)
ABS - Anti-lock Braking System	AUC - Automatic air recirculation
AC - Air Conditioning (from ETK)	AUT - AUTomatic transmission (from ETK)
ACC - Active Cruise Control	AVT - Antenna amplifier Tuner
ACS - Active Comfort Seats	AZD - tightening torque specifications (in TIS)
ADB(X) - Automatic Differential Braking	A/D – Analog/Digital
ADS - engine intake air control	B - Benzene (gasoline)
ADV - windshield wiper pressure control	BAT - BATtery (from ETK)
AEGS - Automatic Electronic Gearbox Control (also EGS)	BC - Board Computer
AFM - Air Flow Meter	BC1 - Body Controller 1
AGD - suction silencer (from ETK)	BL - Brake Light (from ETK)
AGR - emission reduction	BLS - Brake Light Switch
AGS - Adaptive transmission control	BMBT - Board Monitor
AG - Automatic Gearbox (transmission)	BS - Block diagram
AHK - Active rear-axle Kinematics	BST - Battery Safety Terminal
AHK - trailer hitch (from ETK)	BVA - Brake pad wear indicator (from ETK)
AHM - trailer Module (not for US models)	BZM - center console control center
AHPS - Advanced HPS	BZMF - center console control center, rear
AIC - Automatic Interval Control (rain sensor)	CAN – Controller Area Network (Multiple ECU Controller)
AKF - activated carbon canister (from ETK)	CAN-Bus - Controller Area Network (bus)
AKS - Active head restraint	CANH-Bus - CAN bus, High
AKS - pressure regulating device (from ETK)	CANL-Bus - CAN bus, Low
ALC - Automatic Light Control	CANP - fuel tank ventilation valve
ALR - Automatic Lamp Range Adjustment	CAS - Car Access System
AMM - Air Mass Meter	CBC - Corner Braking Control
AMP - radio system AMPlifier	CBS - Condition Based Service
ARI - car radio information system (from ETK)	CCM - Check Control Module
ARS - Active Roll Stabilization	CD - Control Display
ASC - All Season traction	CDC - Compact Disk Changer
ASC-EZA - ASC w/ engine timing and injection intervention	CDS - CD player (from ETK)
ASC+T - ASC+ Traction control	CEL - CELsius (from ETK)
ASK - Audio System controller (Kontroller)	CIM - Chassis Integration Module
ASR - self starter block relay (from ETK)	CO - Carbon monOxide (from ETK)
AST - Automatic Slip control (marketing term)	COMBI – Electronic Instrument Cluster
	CON - CONtroller
	CU - Copper (from ETK)
	CVM - Convertible top Module
	CVT - Constantly Variable Transmission

LAUNCH TECH VICTORIA

CW - drag coefficient (from ETK)	EZA - see ASC-EZA
D1 - Xenon light/ gas discharge (from ETK)	ECM - Engine Control Module (SAE term)
D-Bus - Diagnosis bus (same as TXD)	ECO - Controller for I-Drive system
DBC - Dynamic Brake Control	EDC - Electronic Dampening Control
DBS - Dynamic Braking System	EDC-K - Electronic Dampening Control - Continuous
DCS - Dealer Communication System	EDK - Electronic throttle valve
DE – Diagnostic Unit	EDS - pressure regulator
DD - Dynamic motor Drive	EFH - Electric window lifter (from ETK)
DDE - Digital Diesel Electronics	EGS - Electronic transmission control
DIN - German industrial standards	EH - Electronic-Hydraulic
DIS - Diagnosis and Information System	EHC - Electronic Height Control
DISA - Differential air intake control	EKM - Electronic body Module
DIVA - continuously variable length intake runners	EKP - Electric fuel Pump
DK - throttle housing/valve	ELV - Electronic steering lock
DKB - throttle w/ brake intervention	EM - Electro-Mechanical
DKE – Throttle Increase	EMF - Electro-Mechanical parking brake
DKI - throttle position	EML - Electronic Motor Load regulation
DKR - throttle reduction	EMV - Electro-Magnetic sensitivity (from ETK)
DKT - throttle position signal	EO - component location
DKV - preset throttle position value	EPC - Electronic Parts Catalog (also ETK)
DME - Digital Motor Electronics	EPRM - Erasable/ Programmable chip Memory (from ETK)
DM-TL - Diagnostic Module Tank Leakage	ETK - Electronic parts catalog (also EPC)
DOHC - Double Over Head Camshafts (from ETK)	ETM - Electrical Troubleshooting Manual
DS - gasket set (from ETK)	ESS - Electronic anti-theft device
DSC - Dynamic Stability Control	EV - injection Valve
DSP - Digital Sound Processing	EWS - Electronic drive-away protection
DTC - Diagnostic Trouble Code (SAE)	FB - Function description
DTC - Dynamic Traction Control	FBC - Fading Brake Control
DWA - theft deterrent system	FBD - remote control services
DWS - tire pressure Warning System	FBZV - radio frequency locking system
DZM - revolution counter (from ETK)	FGR – Vehicle Speed Control (Cruise Control)
E - "in" (Ein)	FH - window lifter
EBA - installation instructions (from ETK)	FHK - rear Heater/ air conditioner
EBV - Electronic Brake force proportioning	FLC - automatic Light Control
ECE - European market version (from ETK)	FRU - Flat Rate Unit
ECM - Engine Control Module (SAE term)	FS – Crash Sensor
ECU - Electronic Control Unit	FZV - central lock receiver
EDC - Electronic Damper Control (from ETK)	GAL - speed dependent sound volume
EDR - Electronic throttle control	GM - General Module
E-KAT - Electrically heated catalytic converter	GMR - yaw moment control
	GPS - Global Positioning System
	GRII - cruise control
	GRS - rotation Rate Sensor
	GS – Belt Tensioner

LAUNCH TECH VICTORIA

GWK - torque converter lock-up control	KL15 - run bus (ignition switch run position)
H - "rear" (Hinten)	KL30 - battery bus (hot at all times)
H2 - Xenon headlights	KL31 - ground bus (chassis ground)
HA - rear Axle (from ETK)	KL50 - start bus (ignition start position)
HC – Hydro Carbon	KLR - accessory bus
HD - Heavy Duty (from ETK)	KO - compressor "on" signal
HDC - Hill Decent Control	KOMBI - instrument cluster
HFM - Hot Film air mass Meter	KOREL - compressor relay signal
HG - manual Gearbox (transmission)	KR – Contact Ring
HKL - Hydraulic trunk lid Lift	KSK - Knock Sensor
HLM – Hot Wire Air Mass Meter	KVA - fuel consumption signal/value
HPS - Head Protection System	KW - crankshaft
HR - Heater control (from ETK)	KW - KiloWatt (from ETK)
HVA - Hydraulic Valve Adjuster (from ETK)	LCM - Lamp Check Module
Hz – Hertz (Cycle)	LDP - Leak Diagnosis Pump
I-Bus - Information bus	LEV - Low Emissions Vehicle
IB - Interior lighting control signal	LEW - Lateral acceleration sensor
IHKA - automatic Heating and A/C	LHD - Left-Hand Drive (from ETK)
IHKAF - IHKA w/ micro filter	LKM - Lamp control Module
IHKR - regulated Heating and A/C	LL - closed throttle
IHKRF - IHKR w/ micro filter	LM - Light Module
IHKS - standard Heating and A/C	LMM - air flow meter/sensor
IHPD - Internal High Pressure Deformation	LMR - Light alloy wheel
IHR - Integrated Heater control (from ETK)	LRA - vertical headlight aiming
IKE - Instrument cluster Electronics	LSM - steering column memory
ILH - Interior Lighting, rear	LSZ - Lamp Switching center
ILV - Interior Lighting, front	LVA - air supply system (for EHC system)
IMS - Instant Mobility System (from ETK)	LWR - vertical headlight aim control
IR – Infrared	LWS-5 - steering angle sensor
IRS – Infrared Locking System	M-Bus - IHKA/IHKR stepper motor bus
ISC – Idle Speed Control	MAL - center armrest
ISIS - Intelligent Safety Integration System	MBC - Maximum Brake Control
ISN - Individual Serial Number	MDK - Motorized throttle valve/system
ISOFIX - standardized mounts for child restraints	MFL - Multi-Function steering wheel
ITS - head airbag assembly/ Inflatable Tubular Structure	MFC - Multi-Function Controller
IVM - Integrated power supply Module	MFU - Multi-Function Clock
K-Bus - body bus (Karosserie)	MID - Multi-Information Display
KAT - catalytic converter	MIL - Malfunction Indicator Lamp (SAE), "check engine" Lamp
KATON - converter creating (signal)	MIR - Multi-Information Radio
KD - Kick-Down	MMC - Multi-Media Changer
KHI - interface for headphones	MoDiC - Mobile Diagnostic Computer
KL - terminal designation	MOST-Bus - Media Oriented System Transport bus
	MRS - Multiple Restraint System
	MSR - engine drag torque Regulation
	MV - Magnetic Valve (solenoid Valve)
	n-ab - rotational speed, transmission (rpm)

LAUNCH TECH VICTORIA

n-mot - rotational speed, engine (rpm)	SBFH - Seat module, passenger-side rear
NAVI - Navigation module	SBSL - Satellite, B-pillar left
NG - New Generation (as in N73 engine)	SBSR - Satellite, B-pillar right
NG - tilt sensor	SBT - SI techniques/ tech reference information (in TIS)
NOX - Nitrogen Oxides/ exhaust gas recirculation (from ETK)	SCA - Soft Close Automatic/Actuator
NSD - rear muffler (from ETK)	SD - sliding roof (from ETK)
NSL - rear fog Lamp (from ETK)	SD - silencer/ muffler (from ETK)
NSW - fog lamp (from ETK)	SE - Special Equipment (from ETK)
NTC - Negative Temperature Coefficient	SES - voice recognition System
NW - camshaft (from ETK)	SFAH - Seat module, driver's side rear
OBC - On-Board Computer	SFZ - Satellite, vehicle center
OBD - On-Board Diagnosis (SAE)	SG - control unit
P/N - Park/Neutral position	SGS - Seat integrated belt System
P-Bus - Periphery bus	SHD - sliding/ lifting roof (from ETK)
PB - Pin assignments	SHD - Sunroof module (also SHDM)
PBS - Parts Bulletin System (in TIS)	SI - Service Information (in TIS)
PDC - Park Distance Control	SIA - Service Interval system (ver. I, II, III, IV, etc.)
PGS - Passive Go System	SII - Service Interval Indicator
PM - Power Module	SIL - SILicon (from ETK)
PP - Impact Pad	SIM - Safety Information Module
PTC - Positive Temperature Coefficient	SINE - Siren/tilt sensor
RLS - Rain-Light Sensor	SKD - Steel sliding roof (from ETK)
PWG - Pedal position sensor/ potentiometer	SKHD - Steel sliding/ lifting roof (from ETK)
RA - Repair instructions (in TIS)	SM - Seat Module
RAM - Random Access Memory	SM/SPM - Seat/Mirror Memory
RAL - Aluminum wheels (from ETK)	SMBF - Seat Module, passenger side
RAL - standard color (from ETK)	SMFA - Seat Module, driver's side
RDC - tire pressure Control	SMG - Sequential Manual Gearbox
RDS - Radio Data-broadcast System	SP - Schematic
RDW - tire pressure Warning	SRA - headlight/fog light cleaning
RHD - Right-Hand Drive (from ETK)	SRS - Supplementary Restraint System
RM - Relay Module	SSD - Steel sliding roof (from ETK)
ROZ - Research Octane rating/ fuel grade (from ETK)	SSH - Seat Satellite, rear seat
RPA - tire puncture warning (from ETK)	ST - connector views
RPS - Rollover Protection System	Steptronic - transmission shift control
RS - Repair kit (from ETK)	STVL - Satellite, left front door
RSW - back-up lamp (from ETK)	STVR - Satellite, right front door
RXD - wake-up Diagnosis line	SVS - Speech processing System
RZV - direct stationary ignition	SWR - headlamp cleaning system (from ETK)
SASL - Satellite, A-pillar left	SWZ - Special tool listings (in TIS)
SASR - Satellite, A-pillar right	SZL - Switch center, steering column
SAV - Sport ACTIVITY Vehicle	SZM - central switch center Module
SB - fuse assignments	
SBE - Seat occupancy detector/sensor	
TAGE - door handle Electronics	TD - engine speed signal (ignition pulse)
TCM - Transmission Control Module	TD - Technical Data (in TIS)

LAUNCH TECH VICTORIA

TE - fuel evaporation control	UERSS - rollover bar (from ETK)
TEL - TELEphone control unit	URS - rollover protection System
TEV - evaporative purge control	USIS - Ultrasonic passenger compartment Sensor
THZ - Tandem master cylinder (from ETK)	V - "front" (Vorn)
ti - Injector "on" Time (duration)	V - vehicle road speed
TIS - Technical Information System	VA - front Axle (from ETK)
TL - part throttle / load signal	VAT - front axle support (from ETK)
TLEV - Transitional Low Emission Vehicle	VANOS - Variable camshaft timing
TMBFT - door Module, passenger side	VEP - distributor-type injection Pump (from ETK)
TMBFTH - door Module, passenger side rear	VID - VIDEo module
TMFAT - door Module, driver's side	VL - full load (wide open throttle)
TMFATH - door Module, driver's side rear	VSD - front muffler (from ETK)
TP - Tandem Pump (from ETK)	VVT – Valve tronic
TPS - Throttle Position Switch/Sensor	WBG - hazard warning switch (from ETK)
TR - engine speed signal (rpm)	WIM - Wiper control Module
TR - TRansistor (from ETK)	WK - torque converter lock-up clutch
TRG - fuel level sensor (from ETK)	WSS – Wind Shield (from ETK)
TRI - Technical Reference Information (also SBT)	WT – Valve tronic control unit
TRS - battery isolation Switch	Z - "central" (Zentrum)
TSD - Torsional vibration dampener (from ETK)	ZAB - ignition fade-out (reduction)
TSH - door lock Heating	ZAE - central Airbag Electronics
TSZI - Transistorized coil Ignition system (from ETK)	ZAS - ignition starter switch (from ETK)
TU - Technical Update (as in M50tu)	ZGM - central Gateway Module
TXD - Transmitting Diagnosis line	ZK - cylinder head (from ETK)
U-batt - Battery voltage	ZKE - central body Electronics
U-vers - supply voltage	ZKH - cylinder head cover (from ETK)
ZV - central locking system (from ETK)	ZMS - dual-Mass flywheel (from ETK)
ZVM - central locking Module	ZV - central locking system
ZWD - idle control valve	ZS - central lock (from ETK)
	ZSD - center muffler (from ETK)

MERCEDES BENZ Abbreviations for Body

AM	All Activity Module	AHV	Trailer coupling
AB	Airbag	APS	Auto Pilot system
AHE	Trailer recognition	ATA	Anti - theft alarm system

LAUNCH TECH VICTORIA

BNS	“Bordnetzsteuergerat” CCM	system
	Multifunction control module CV	RFH Reversing aid
	Convertible soft	RFL Radio frequency locking electric
	top EAM Extended activity module (As of	central locking
	model year 2000) ...	RFL (DAS2b) Radio frequency locking
CCM	Multifunction control module	(Drive authorization stage 2)
CV	Convertible soft top	RRE OCP. Overhead control panel
EAM	Extended activity module EDW	RS Roadster soft top
	Anti-theft warning system	RV Roadster soft top
EIS	Electronic ignition switch	SAM - F Front signal acquisition and
ELCODE(DAS 3)		actuation module
EPH	Parking aid	SAM - R Rear signal acquisition and
FAN	Fanfare system	actuation module
GUB	Seat belt extender	SEM Security module (up to model year
GUS	Seat belt tensioner	1999)
HORN	Horn system	SHD Tilting/sliding roof
HRA - FL	Front left headlamp range	SHI Closing aid(power closing)
	adjustment	SKF (CCM)Multifunction control
HRA - FR	Front right headlamp range	module
	adjustment	SRA Headlamp wash/wipe system
HZS	Additional trunk lid lock	SRS Restraint system
IFZ	Infrared remote control	SVMCM Special vehicle multifunction
IR	Infrared	control module
IRS	Interior compartment protection	SVS power closing(closing aid)
KAF	Retractable rear head restraints	UCP Upper control panel
KG	Keyless Go	URB Roll over bar
KI	Instrument cluster	VHG Retractable trunk lid handle
LCP	Lower control panel	VR Vario roof / Rollover bar
LWR	Headlight vertical aim control	(Electrohydraulic soft top)
OCP	Overhead control panel	ZUV Additional vacuum supply
PSE	Pneumatic control units (or)	ZV Central locking system
	Pneumatic system equipment	
PTS	Park distance control or Parktronic	

LAUNCH TECH VICTORIA

BMW Abbreviations

A - processed vehicle speed signal	AST - Automatic Slip control (marketing term)
A - "out" (Aus)	AT - remanufactured part (from ETK)
AB - Airbag	AT - Antenna (from ETK)
ABL - Brake system warning Lamp (2 color)	ATF - Automatic Transmission Fluid (from ETK)
ABS - Anti-lock Braking System	ATL - exhaust gas turbo charger (from ETK)
AC - Air Conditioning (from ETK)	AUC - Automatic air recirculation
ACC - Active Cruise Control	AUT - AUTomatic transmission (from ETK)
ACS - Active Comfort Seats	AVT - Antenna amplifier Tuner
ADB(X) - Automatic Differential Braking	AZD - tightening torque specifications (in TIS)
ADS - engine intake air control	A/D – Analog/Digital
ADV - windshield wiper pressure control	B - Benzene (gasoline)
AEGS - Automatic Electronic Gearbox Control (also EGS)	BAT - BATtery (from ETK)
AFM - Air Flow Meter	BC - Board Computer
AGD - suction silencer (from ETK)	BC1 - Body Controller 1
AGR - emission reduction	BL - Brake Light (from ETK)
AGS - Adaptive transmission control	BLS - Brake Light Switch
AG - Automatic Gearbox (transmission)	BMBT - Board Monitor
AHK - Active rear-axle Kinematics	BS - Block diagram
AHK - trailer hitch (from ETK)	BST - Battery Safety Terminal
AHM - trailer Module (not for US models)	BVA - Brake pad wear indicator (from ETK)
AHPS - Advanced HPS	BZM - center console control center
AIC - Automatic Interval Control (rain sensor)	BZMF - center console control center, rear
AKF - activated carbon canister (from ETK)	CAN – Controller Area Network (Multiple ECU Controller)
AKS - Active head restraint	CAN-Bus - Controller Area Network (bus)
AKS - pressure regulating device (from ETK)	CANH-Bus - CAN bus, High
ALC - Automatic Light Control	CANL-Bus - CAN bus, Low
ALR - Automatic Lamp Range Adjustment	CANP - fuel tank ventilation valve
AMM - Air Mass Meter	CAS - Car Access System
AMP - radio system AMPLifier	CBC - Corner Braking Control
ARI - car radio information system (from ETK)	CBS - Condition Based Service
ARS - Active Roll Stabilization	CCM - Check Control Module
ASC - All Season traction	CD - Control Display
ASC-EZA - ASC w/ engine timing and injection intervention	CDC - Compact Disk Changer
ASC+T - ASC+ Traction control	CDS - CD player (from ETK)
ASK - Audio System controller (Kontroller)	CEL - CELsius (from ETK)
ASR - self starter block relay (from ETK)	CIM - Chassis Integration Module
	CO - Carbon monOxide (from ETK)

LAUNCH TECH VICTORIA

COMBI – Electronic Instrument Cluster	EDC - Electronic Damper Control (from ETK)
CON - CONTroller	EDR - Electronic throttle control
CU - Copper (from ETK)	E-KAT - Electrically heated catalytic converter
CVM - Convertible top Module	EZA - see ASC-EZA
CVT - Constantly Variable Transmission	ECM - Engine Control Module (SAE term)
CW - drag coefficient (from ETK)	ECO - Controller for I-Drive system
D1 - Xenon light/ gas discharge (from ETK)	EDC - Electronic Dampening Control
D-Bus - Diagnosis bus (same as TXD)	EDC-K - Electronic Dampening Control - Continuous
DBC - Dynamic Brake Control	EDK - Electronic throttle valve
DBS - Dynamic Braking System	EDS - pressure regulator
DCS - Dealer Communication System	EFH - Electric window lifter (from ETK)
DE – Diagnostic Unit	EGS - Electronic transmission control
DD - Dynamic motor Drive	EH - Electronic-Hydraulic
DDE - Digital Diesel Electronics	EHC - Electronic Height Control
DIN - German industrial standards	EKM - Electronic body Module
DIS - Diagnosis and Information System	EKP - Electric fuel Pump
DISA - Differential air intake control	ELV - Electronic steering lock
DIVA - continuously variable length intake runners	EM - Electro-Mechanical
DK - throttle housing/valve	EMF - Electro-Mechanical parking brake
DKB - throttle w/ brake intervention	EML - Electronic Motor Load regulation
DKE – Throttle Increase	EMV - Electro-Magnetic sensitivity (from ETK)
DKI - throttle position	EO - component location
DKR - throttle reduction	EPC - Electronic Parts Catalog (also ETK)
DKT - throttle position signal	EPROM - Erasable/ Programmable chip Memory (from ETK)
DKV - preset throttle position value	ETK - Electronic parts catalog (also EPC)
DME - Digital Motor Electronics	ETM - Electrical Troubleshooting Manual
DM-TL - Diagnostic Module Tank Leakage	ESS - Electronic anti-theft device
DOHC - Double Over Head Camshafts (from ETK)	EV - injection Valve
DS - gasket set (from ETK)	EWS - Electronic drive-away protection
DSC - Dynamic Stability Control	FB - Function description
DSP - Digital Sound Processing	FBC - Fading Brake Control
DTC - Diagnostic Trouble Code (SAE)	FBD - remote control services
DTC - Dynamic Traction Control	FBZV - radio frequency locking system
DWA - theft deterrent system	FGR – Vehicle Speed Control (Cruise Control)
DWS - tire pressure Warning System	FH - window lifter
DZM - revolution counter (from ETK)	FHK - rear Heater/ air conditioner
E - "in" (Ein)	FLC - automatic Light Control
EBA - installation instructions (from ETK)	FRU - Flat Rate Unit
EBV - Electronic Brake force proportioning	FS – Crash Sensor
ECE - European market version (from ETK)	FZV - central lock receiver
ECM - Engine Control Module (SAE term)	GAL - speed dependent sound volume
ECU - Electronic Control Unit	GM - General Module
	GMR - yaw moment control

LAUNCH TECH VICTORIA

GPS - Global Positioning System	KHI - interface for headphones
GRII - cruise control	KL - terminal designation
GRS - rotation Rate Sensor	KL15 - run bus (ignition switch run position)
GS – Belt Tensioner	KL30 - battery bus (hot at all times)
GWK - torque converter lock-up control	KL31 - ground bus (chassis ground)
H - "rear" (Hinten)	KL50 - start bus (ignition start position)
H2 - Xenon headlights	KLR - accessory bus
HA - rear Axle (from ETK)	KO - compressor "on" signal
HC – Hydro Carbon	KOMBI - instrument cluster
HD - Heavy Duty (from ETK)	KOREL - compressor relay signal
HDC - Hill Decent Control	KR – Contact Ring
HFM - Hot Film air mass Meter	KSK - Knock Sensor
HG - manual Gearbox (transmission)	KVA - fuel consumption signal/value
HKL - Hydraulic trunk lid Lift	KW - crankshaft
HLM – Hot Wire Air Mass Meter	KW - KiloWatt (from ETK)
HPS - Head Protection System	LCM - Lamp Check Module
HR - Heater control (from ETK)	LDP - Leak Diagnosis Pump
HVA - Hydraulic Valve Adjuster (from ETK)	LEV - Low Emissions Vehicle
Hz – Hertz (Cycle)	LEW - Lateral acceleration sensor
I-Bus - Information bus	LHD - Left-Hand Drive (from ETK)
IB - Interior lighting control signal	LKM - Lamp control Module
IHKA - automatic Heating and A/C	LL - closed throttle
IHKAF - IHKA w/ micro filter	LM - Light Module
IHKR - regulated Heating and A/C	LMM - air flow meter/sensor
IHKRF - IHKR w/ micro filter	LMR - Light alloy wheel
IHKS - standard Heating and A/C	LRA - vertical headlight aiming
IHPD - Internal High Pressure Deformation	LSM - steering column memory
IHR - Integrated Heater control (from ETK)	LSZ - Lamp Switching center
IKE - Instrument cluster Electronics	LVA - air supply system (for EHC system)
ILH - Interior Lighting, rear	LWR - vertical headlight aim control
ILV - Interior Lighting, front	LWS-5 - steering angle sensor
IMS - Instant Mobility System (from ETK)	M-Bus - IHKA/IHKR stepper motor bus
IR – Infrared	MAL - center armrest
IRS – Infrared Locking System	MBC - Maximum Brake Control
ISC – Idle Speed Control	MDK - Motorized throttle valve/system
ISIS - Intelligent Safety Integration System	MFL - Multi-Function steering wheel
ISN - Individual Serial Number	MFC - Multi-Function Controller
ISOFIX - standardized mounts for child restraints	MFU - Multi-Function Clock
ITS - head airbag assembly/ Inflatable Tubular Structure	MID - Multi-Information Display
IVM - Integrated power supply Module	MIL - Malfunction Indicator Lamp (SAE), "check engine" Lamp
K-Bus - body bus (Karosserie)	MIR - Multi-Information Radio
KAT - catalytic converter	MMC - Multi-Media Changer
KATON - converter creating (signal)	MoDiC - Mobile Diagnostic Computer
KD - Kick-Down	MOST-Bus - Media Oriented System Transport bus
	MRS - Multiple Restraint System
	MSR - engine drag torque Regulation

LAUNCH TECH VICTORIA

MV - Magnetic Valve (solenoid Valve)	SBFH - Seat module, passenger-side rear
n-ab - rotational speed, transmission (rpm)	SBSL - Satellite, B-pillar left
n-mot - rotational speed, engine (rpm)	SBSR - Satellite, B-pillar right
NAVI - Navigation module	SBT - SI techniques/ tech reference information (in TIS)
NG - New Generation (as in N73 engine)	SCA - Soft Close Automatic/Actuator
NG - tilt sensor	SD - sliding roof (from ETK)
NOX - Nitrogen Oxides/ exhaust gas recirculation (from ETK)	SD - silencer/ muffler (from ETK)
NSD - rear muffler (from ETK)	SE - Special Equipment (from ETK)
NSL - rear fog Lamp (from ETK)	SES - voice recognition System
NSW - fog lamp (from ETK)	SFAH - Seat module, driver's side rear
NTC - Negative Temperature Coefficient	SFZ - Satellite, vehicle center
NW - camshaft (from ETK)	SG - control unit
OBC - On-Board Computer	SGS - Seat integrated belt System
OBD - On-Board Diagnosis (SAE)	SHD - sliding/ lifting roof (from ETK)
P/N - Park/Neutral position	SHD - Sunroof module (also SHDM)
P-Bus - Periphery bus	SI - Service Information (in TIS)
PB - Pin assignments	SIA - Service Interval system
PBS - Parts Bulletin System (in TIS)	SII - Service Interval Indicator
PDC - Park Distance Control	SIL - SILicon (from ETK)
PGS - Passive Go System	SIM - Safety Information Module
PM - Power Module	SINE - Siren/tilt sensor
PP - Impact Pad	SKD - Steel sliding roof (from ETK)
PTC - Positive Temperature Coefficient	SKHD - Steel sliding/ lifting roof (from ETK)
RLS - Rain-Light Sensor	SM - Seat Module
PWG - Pedal position sensor/ potentiometer	SM/SPM - Seat/Mirror Memory
RA - Repair instructions (in TIS)	SMBF - Seat Module, passenger side
RAM - Random Access Memory	SMFA - Seat Module, driver's side
RAL - Aluminum wheels (from ETK)	SMG - Sequential Manual Gearbox
RAL - standard color (from ETK)	SP - Schematic
RDC - tire pressure Control	SRA - headlight/fog light cleaning
RDS - Radio Data-broadcast System	SRS - Supplementary Restraint System
RDW - tire pressure Warning	SSD - Steel sliding roof (from ETK)
RHD - Right-Hand Drive (from ETK)	SSH - Seat Satellite, rear seat
RM - Relay Module	ST - connector views
ROZ - Research Octane rating/ fuel grade (from ETK)	Steptronic - transmission shift control
RPA - tire puncture warning (from ETK)	STVL - Satellite, left front door
RPS - Rollover Protection System	STVR - Satellite, right front door
RS - Repair kit (from ETK)	SVS - Speech processing System
RSW - back-up lamp (from ETK)	SWR - headlamp cleaning system (from ETK)
RXD - wake-up Diagnosis line	SWZ - Special tool listings (in TIS)
RZV - direct stationary ignition	SZL - Switch center, steering column
SASL - Satellite, A-pillar left	SZM - central switch center Module
SASR - Satellite, A-pillar right	TAGE - door handle Electronics
SAV - Sport ACTIVITY Vehicle	TCM - Transmission Control Module
SB - fuse assignments	TD - engine speed signal (ignition pulse)
SBE - Seat occupancy detector/sensor	TD - Technical Data (in TIS)

LAUNCH TECH VICTORIA

TE - fuel evaporation control
TEL - TELEphone control unit
TEV - evaporative purge control
THZ - Tandem master cylinder (from ETK)
ti - Injector "on" Time (duration)
TIS - Technical Information System
TL - part throttle / load signal
TLEV - Transitional Low Emission Vehicle
TMBFT - door Module, passenger side
TMBFTH - door Module, passenger side rear
TMFAT - door Module, driver's side
TMFATH - door Module, driver's side rear
TP - Tandem Pump (from ETK)
TPS - Throttle Position Switch/Sensor
TR - engine speed signal (rpm)
TR - TRansistor (from ETK)
TRG - fuel level sensor (from ETK)
TRI - Technical Reference Information (SBT)
TRS - battery isolation Switch
TSD - Torsional vibration dampener (ETK)
TSH - door lock Heating
TSZI -Transistorized coil Ignition system (ETK)
TU - Technical Update (as in M50tu)
TXD - Transmitting Diagnosis line
U-batt - Battery voltage
U-vers - supply voltage
UERSS - rollover bar (from ETK)
URS - rollover protection System
USIS - Ultrasonic passenger compartment Sensor
V - "front" (Vorn)
V - vehicle road speed
VA - front Axle (from ETK)
VAT - front axle support (from ETK)
VANOS - Variable camshaft timing
VEP - distributor-type injection Pump (from ETK)
VID - VIDEo module
VL - full load (wide open throttle)
VSD - front muffler (from ETK)
VVT – Valve tronic
WBG - hazard warning switch (from ETK)
WIM - Wiper control Module
WK - torque converter lock-up clutch
WSS – Wind Shield (from ETK)
WT – Valve tronic control unit
Z - "central" (Zentrum)
ZAB - ignition fade-out (reduction)
ZAE - central Airbag Electronics
ZAS - ignition starter switch (from ETK)
ZGM - central Gateway Module
ZK - cylinder head (from ETK)
ZKE - central body Electronics
ZKH - cylinder head cover (from ETK)
ZMS - dual-Mass flywheel (from ETK)
ZV - central locking system
ZS - central lock (from ETK)
ZSD - center muffler (from ETK)
ZV - central locking system (from ETK)
ZVM - central locking Module
ZWD - idle control valve