# <u>INPA Tutorial Quickstart</u> <u>Setup & Using Functional Jobs</u>

## I. <u>Procedure: Setup Hardware, Windows 10 OS:</u>

AFTER Downloading & Installing Software: Set to Com Port 1, Latency 1

- 1) Attach K+DCAN Cable to computer USB Port (but NOT OBD II Socket)
- 2) Open Control Panel & Select Device Manager
- 3) In Device Manager, Select "Ports (COM & LPT)" which ONLY appears if Cable connected
- 4) DoubleClick USB Serial Port & select Port Settings Tab & click "Advanced" box
- 5) Set Com Port # = "COM1" & set Latency Timer (msec) = "1"
- 6) If your Cable has a slide switch on the Large Connector which attaches to the OBD II Socket, check to make sure it is in correct position. For example, BimmerGeeks Pro cable, proper position is to right as you hold pins UP with switch facing you. This is a pin bridge, and correct switch position varies between models.
- NOTE: Check these settings if you can't connect to a module, or have program STOP a function after a screen has opened, or if only part of a screen opens or displays.

## II. <u>Functional Jobs:</u>

## A. <u>Primary Uses, F2, Identification, and F4, Fault Memory, ALL Modules:</u>

- **F2, Identification:** provides identification of EACH of the ~ 20 modules in your vehicle (some more, some less, depending upon optional equipment) including SGBD ID Code for module. Recommended that you SAVE that screen for future reference.
- **F4, Fault Memory, All Modules:** provides a quick readout of status of Fault Memory of each Module, listing any Fault Code found in any module; stating No error registered (Kein Fehler eingetragen), if NONE for that Module. This is ONLY the code, NO Fault Code Definition.

## B. <u>Procedure to Display F2 or F4 Screens:</u>

- 1) At INPA opening screen, Select E90 (E91/E92/E93) Function key varies between Versions;
- 2) Script Selection Box appears, with Left & Right Listboxes;
- 3) "Select E90 V1.xx" highlighted in Left Listbox at open; Press Tab to move to Right Listbox;
- 4) Press Cursor Down Arrow to Highlight "Functional Jobs" in Right Listbox; Press Enter;
- 5) Functional Jobs Menu, Press  $\langle F2 \rangle$  Identification or  $\langle F4 \rangle$  Fault Memory (Fehlerspeicher);

## C. Saving Screens; Uses & Procedure:

You will almost certainly find that you want to save an INPA screen: (1) to have a historical record of faults, (2) to be able to post a screen on a Forum, (3) to translate it, or even (4) to keep some or all screens you open in a folder named for that Module, so you have a reference for what INPA can do or show you related to that Module. ONE WAY to do that (there are others):

1) Have a photo editor (such as "Paint" – Windows Accessory) open & running in background BEFORE you open INPA;

2) Open INPA screen to be Saved; press Shft+PrtSc to "print screen"/save it in temp memory;

3) Alt+Tab to navigate to Paint; Ctrl+V to paste screenprint to Paint;

4) SaveAs jpg file format in Folder/Subfolder of your choice, with helpful descriptive name.5) In Paint, press Ctrl+N to clear screen to be ready for NEW "Paste & SaveAs.

- **Example of Filename & Folder Format:** I do a "Functional Jobs" check for Fault Codes in ALL Modules ~ every 3 months. To maintain an historical record of Faults (or hopefully Lack Thereof ;-) I SAVE the screen each time in a Subfolder "Functional Jobs" where the other subfolders are named for each Module, such as DME, EGS, FRM, etc. When I last saved a screenprint of Fault Memory, ALL modules, on June 5, 2019, I gave it a FileName: 190606 FS1 or FS2 (two pages due to short screen). That yymmdd first name results in automatic sorting by date, and the FS1 stands for Fehlerspeicher1 or 1<sup>st</sup> page of Fault Memory. NOTE: I have Fluid Wear Faults in BOTH EGS & VGSG.
- Whatever works for YOU, but keeping records of stuff is important, and how you keep them becomes MORE important the More Stuff you keep. One of the BIGGEST advantages of a computer-based software vs. Carly or such is the ability to EASILY & Quickly save a copy of a screen. INPA automatically saves some screens in temporary txt files in the "BIN" folder which you can retrieve BEFORE they get overwritten, but since electronic file storage is cheap these days, it really becomes what is quicker & easier, and the jpg file works for bar graphs & other graphics in F5 (Status) screens (See Below).

### III. <u>Connecting to Modules:</u>

#### A. <u>Why Connect to a Single Module?</u>

- **Functional Jobs a Starting Point ONLY:** There are NO Fault Code DEFINITIONS, Freeze Frame Data or Fault Details, PLUS there is a LOT more to INPA than just Fault Codes (summarized below). There's NOT much diagnostic information in a 4-character code that means NOTHING without a definition.
- **So you have to connect to a single Module:** to find out what is going on NOW, or has gone on in the past, and to be able to see Parameters or PIDs (Inputs to that Module in Real Time), or to do "Activations" or tests of Outputs from the Module to a Motor or other component.

#### B. <u>What Information is Available when you Connect to a Single Module?</u>

#### 1. F1: Information about Module; F2: Identification of the Module:

**Press F1 & F2:** at Main Menu for any Module and see/Save data about that module from Part#, Name of Supplier, Variant Information, etc. Suggest Saving F1 & F2 screens as reference for each module in your vehicle.

#### 2. <u>F4: Fehlerspeicher; Fault Memory & Memory History:</u>

- **Fault Codes:** both in P-code format & in BMW FC format
- **Fault Code DEFINITIONS:** often in German requiring translation
- □ **Fault Code Details:** such as whether or not the fault is currently present or would light a warning lamp; the mileage/km at which the fault code was saved; other conditions such as Voltage or Temperature when fault was saved; the type of signal fault (high/low/none), etc.
- □ **Freeze Frame Data:** in DME faults you will see a snapshot of Parameters at the moment the fault code was saved, such as Engine Temp, RPM, Load, System Voltage, etc.

- □ **Historyspeicher or Memory History in DME:** where Fault Codes that happened years ago and were cleared are still recorded, along with mileage/km when saved, and other details
- **Faults that do NOT light a warning lamp:** such as Oil Wear Faults in Transmission or Transfer Case. Actually, these appear in Functional Jobs but without Definition or Details

#### 3. F5: Status; Parameters; Live Data; Inputs to Modules from Sensors/Switches:

4. F6: Activations (Steuern); Test/Activate Module Outputs & Attached Motors:

Examples of F5 & F6 functions for Each Module will be provided, beginning with DME & IHKA Modules. WATCH THIS SPACE O

#### IV. Functional Jobs Screens, Example Screens for my 2007 328xi:

Screens will vary depending upon Equipment/Modules/Variants/Options on YOUR vehicle

#### A. <u>Functional Jobs Main Menu: How to Select:</u>

Screen below appears when E90 selected; press Tab & Down (scroll) Arrow; Press Enter

About	BMW INPA Version 5.00							- 🗆 X
° BMV	V INPA							
	Battery : < F1 > Information < F2 > F01 (F02) < F3 > F07 (F010/F011) < F4 > F025 < F5 > F30	0	Off Script selection ( <tab> to chang Select 690 01.32 Engine Transmission Chassis Karosserie Seat Modules Communication Syste</tab>	e listbox, <esc> to abort) Functional Jobs</esc>	Ignition :	ye Editor E66) E71/E72) E81/E82/E88)	off	
	< F6 > E90 (E91/E92/E93) < F7 > E85 (E86)					3MW MODELS (R55,R56,R57,R5	8)	
	< F8 > E89		1			Royce RR1 (RF	R2, RR3)	
	< F9 > E60 (E61/E63/E64)					NE		
	< F10> End				<shift> + &lt; F10&gt; Exi</shift>	it		
RUNNING				Select menu				
F1	F2	F3	F4	F5 I	-6 F7	F8	F9	F10
Info	F01	F07	F025	F30 E	90 E85	E89	E60	End

Hauptmenü <pre>     Hauptmenü </pre> <pre>     <pre>     </pre> <pre>     <pre>     </pre> <pre>  <pre>     </pre> <pre>     </pre> <pre>     </pre> <p< th=""><th>×</th></p<></pre></pre></pre>	×
< F1 > Information < F2 > Identifikation <shift> + &lt; F2 &gt; Fahrzeugdaten &lt; F3 &gt; Anwenderinformationsfeld</shift>	
< F2 > Identifikation <\$hift> + < F2 > Fahrzeugdaten < F3 > Anwenderinformationsfeld	
< F3 > Anwenderinformationsfeld	
< F4 > Fehlerspeicher	
< F5 > Status	
< F6 > Steuern	
< F7 > Funktionale Adresse Alle Steuergeräte	
< F8 > Id Mode	
< F9 > Bildschirmdruck	
< F10> Ende <\$hift> + < F10> Exit	
RUNNING Hauptmenü	
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10	_

#### B. <u>Functional Jobs, Main Menu (Hauptmenu):</u>

# C. <u>Functional Jobs / F2, Identification, Identifying ALL Modules in Vehicle:</u>

Suggest save & use as reference; NOTE "SGBD" Module Variant, 4<sup>th</sup> Column

lentif	ikation I D	ENTIF														
Infa IobS Inza	eihe: E89 ng: All tatus: OKA	08.2018 18 X e Steuergen	:10:39													
DR 10127890960456023D282	Grobname JBBF MRS DME/DDE EKP EGS TEL/MULF CAS SHD/MDS SHD/MDS ISPB MOSTGW MASK/CCC FAS FRM KLIMA UIRTSG92	JobStatus UKAY UKAY OKAY OKAY OKAY OKAY OKAY OKAY OKAY O	JBBF87 MRS5 MRS5 GS1912 UGS690 RDC_CAN DXC-96 TELE60_3 CAS DL KWP ULF2_HI F2D_87 KOHB87 RAD2_GW RAD2 FAS_PLX FRM_70 IHKA87	D_EGS D_UGSG D_RDC D_DSC D_TEL D_CAS D_SHD D_SHD D_FZD D_FZD D_KOMBI D_MOSTGW D_KLIMA	Teile-Nr 9134484 9134280 7594483 7576679 7576679 757689832 6782295 9171348 92473654 92473654 92473654 924873654 924873654 924873654 924873654 924873654 924873654 924873654 924873654 924873654 924873654 92485946 9196936 91667111 9199268 9123858		0800000000000000000000000000000000000	7 8 12 3 6 0 13 18 9 7 9 6 8 8 9 7 9 6 8 8 9 21 9 1 0	05 10 00 05 01 13 02 03 18 C4 C1 04 34 0*	4.6.0 10.1.0 7.6.1 10.1.0 2.4.9 5.4.5	$\begin{array}{c} 3.46.10\\ 0.6.0\\ 3.3.30\\ 255.255.255\\ 3.3.30\\ 3.10.3\\ 0.6.0\\ 255.255.255\\ 3.3.0\\ 3.2.3\\ 3.55.255.255\\ 3.3.0\\ 0\\ 3.30.40\\ 0.6.0\\ 0\\ 3.30.4\\ 1.6.5\\ 3.3.30\\ 1.6.5\\ $	SW-Nr MCU 0.18.141 1.22.32 0.8.0 0.18.45 0.13.220 0.18.55 0.19.248 0.22.150 0.8.55 0.19.248 0.22.150 0.8.0 0.11.172 0.12.36 0.8.0 0.19.20 0.12.36 0.8.0 0.19.23 0.23.103 0.8.0	6 0.0 c 255.255.255 0.0.1 0.0.2 0.0.	$\begin{array}{c} 01, 03, 2004\\ 01, 03, 2007\\ 01, 03, 2007\\ 04, 03, 2007\\ 06, 03, 2007\\ 06, 03, 2007\\ 02, 05, 2006\\ 04, 06, 2007\\ 02, 05, 2006\\ 04, 06, 2007\\ 28, 02, 2007\\ 28, 02, 2007\\ 12, 03, 2007\\ 12, 03, 2007\\ 13, 12, 2002\\ 28, 02, 2007\\ 13, 12, 2002\\ 28, 02, 2007\\ 13, 12, 2002\\ 28, 02, 2007\\ 13, 03, 2007\\ 14, 03, 2007\\ 14, 03, 2007\\ 04, 03, 2007\\ 04, 03, 2007\\ 03, 03, 2007\\ 03, 03, 2007\\ 77, 02, 2007\\ 20, 02, 2007\\ 20, 00, 20, 20, 200\\ 20, 00, 20, 20, 20, 20, 20, 20, 20, 20,$	Siemens Helbako GMPT Magna Steyr BERU Electronics Bosch TEMIC AUTOMOTIVE Siemens Siemens Becker Kostal UDD Alpine Alpine	Name Junction Box Beif- Airbag Steuergerä Motorelektronik Mi Elektrische Kraft Getriebesteuergeri- Junanische Stabil: Telematic Control Car Access System Multi Drive Schief Plattforn MUIF2-H: Funktionszentrun I Instrumentenkombi MST/CAN-Gateway Madio Stufe 2 Sitzmodul Fahrer Fussraum Modul Fah Klimaautonatik
NN	ING	-								Hau	ptmenü					1
	F1	<b>F</b>	2	F3	6	F	-4			F5	F6		F7	F8	F9	F10

D. <u>Functional Jobs / F4 / F1, Fault Memory, ALL Modules (page 1 of 2):</u>

Kein Fehler eingetragen = No error entered = what you WANT to see  $\bigcirc$ 

🕙 in	PA - Loader: E8	89X Version 1.10	F.										×
About													
Fehler	rspeicher lesen												
	F I	EHLERS		ER LESEN									1
datu Ram	um: 05 reihe: E89	.06.2019 13 ox	3:23:13										
Unfa	ang: Al:	le Steuerge	eräte										
	Status: OKi ahl: 20												
	Grobname	JobStatus											
	VIRTSG92		J_SERVICE_NO										
ADR	Grobname	JobStatus	5 Anzahl der	Fehlereinträge									
00	JBBF	Fehlercode OKAY	e Fehlerari Kein Fehler	t r eingetragen									
61	HRS	OKAY	Kein Fehler	r eingetragen									
	DME/DDE	OKAY		r eingetragen									
17	ЕКР	OKAY	Kein Fehler	r eingetragen									
18	EGS	0KAY 578E	1 Fehler e: 61	ingetragen									
19	VGSG	0KAY 54C6	1 Fehler e: 71	ingetragen									
20	RDC	OKAY	Kein Fehlen	r eingetragen									
29	DSC	OKAY	Kein Fehler	r eingetragen									
36	TEL/MULF	OKAY	Kein Fehlen	r eingetragen									
40	CAS	OKAY	Kein Fehlen	r eingetragen									
44	SHD/MDS	OKAY	Kein Fehler	r eingetragen									
гг <	tenn	0840	Koin Fahla	u oinactusacn									>
	HNG	-				Fehler	speicher						-
	F1	-	F2	F3	F4	F5	F6	F7	F8	F9		F10	
		1										Exit	
_											-		_

## V. <u>Appendix:</u>

### A. Google Translate, German to English:

https://translate.google.com/#view=home&op=translate&sl=de&tl=en

C:\1 Auto\BMW\07 328xi\3 BMW Diagnostic Software\INPA Tutorial\INPA Tutorial Quickstart.Doc