

ABRITES DIAGNOSTICS FOR HYUNDAI/KIA





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Important notes

The Abrites software and hardware products are developed, designed and manufactured by Abrites Ltd. During the production process we comply to all safety and quality regulations and standards, aiming at highest production quality. The Abrites hardware and software products are designed to build a coherent ecosystem, which effectively solves a wide range of vehicle-related tasks, such as:

- Diagnostic scanning;
- Key programming;
- Module replacement,
- ECU programming;
- Configuration and coding.

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Each warranty claim is inspected individually by our team and the decision is based upon thorough case consideration.

Read the full hardware warranty terms on our website.

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- Abrites assumes no responsibility for any damage resulting from the use, misuse, or negligent use of the hardware or any software application.

Safety information

The Abrites products are to be used by trained and experienced users in diagnostics and reprogramming of vehicles and equipment. The user is assumed to have a good understanding of vehicle electronic systems, as well as potential hazards while working around vehicles. There are numerous safety situations that cannot be foreseen, thus we recommend that the user read and follow all safety messages in the available manual, on all equipment they use, including vehicle manuals, as well as internal shop documents and operating procedures.

Some important points:

Block all wheels of the vehicle when testing. Be cautious when working around electricity.

- Do not ignore the risk of shock from vehicle and building-level voltages.
- Do not smoke, or allow sparks/flame near any part of the vehicle fuel system or batteries.
- Always work in an adequately ventilated area, vehicle exhaust fumes should be directed towards the exit of the shop.
- Do not use this product where fuel, fuel vapours, or other combustibles could ignite.

In case any technical difficulties occur, please contact the **Abrites Support Team by email at <u>support@abrites.com</u>.**

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key programming and module initialization

List of revisions

Date	Chapter	Description	Revision
27.09.15	ALL	First version of the document.	1.0
05.05.17	3.1.1	Reading PIN using a working key an TA31	1.1
23.03.20	ALL	Manual update	1.2
23.03.20	4	Neutralization added	1.2
24.07.20	5	Internal CAN BUS communi- cation (B-CAN) - pinouts	1.3

1. Introduction

"Abrites Diagnostics for Hyundai/KIA" is a Windows PC based diagnostic software for Hyundai and KIA vehicles. With the help of this software you can perform complete diagnostic operations on all vehicles of the brands.

For proper operation of your diagnostic software you will need a corresponding interface for connection between your PC and vehicle named "AVDI". AVDI is an interface produced by Abrites Ltd. intended to act as an interface between the PC and the electronic control units. AVDI should be used with ABRITES software produced by Abrites Ltd.

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2. Using the Abrites diagnostics for Hyundai/Kia

The Abrites diagnostics for Hyundai/ KIA is installed together with the rest of the Abrites diagnostic software applications as a part of the Abrites diagnostic suite provided to the user via e-mail. The user can start the software by clicking on the appropriate icon from the Abrites "Quick start" menu.

Once the software is selected the user will see the following screen:

A AB	RITES Diagnostics for Hyundai and KIA 2.3	www.abrites.com	
#	Unit Name	Protocol DTC -	
01	Motor Electronics	K / CAN	Previous
02	Engine Control Unit (EOBD)	K / CAN	
03	EDC-15c2	K-Line	
04	Immobilizer	K-Line	Connect
05	Electronic Transmission Control	K / CAN	
06	Anti-Lock Brake System (ABS)	CAN	
07	DOHC Smartra	K-Line	Next
08	Tire Pressure Monitoring System	CAN	
09	Electric Power Steering	K / CAN	X
10	Transmission Control Unit	K-Line	Exit
11	Electronic Suspension Control	K / CAN	
12	Electronic Stability Program	K / CAN	
13	Airbag	K / CAN	
•			
*	Vehicle Selection Special Functions	Options	

This is the main diagnostic screen of the software. It contains the navigation buttons and provides a list of all the electronic modules that March be integrated into Hyundai and Kia vehicles.

2.1 Diagnostics

In order to perform basic diagnostic operations such as module identification, reading and clearing of diagnostic trouble codes (DTC) and live data measurement the vehicle model should be selected.

A AB	RITES Diagnostics for Hyundai and KIA 2.3	www.abrites.	com 💷 🖻	×
#	Unit Name	Protocol	DTC	
01	Motor Electronics	CAN KWP	26	Previous
02	Anti-Lock Brake System (ABS)	CAN KWP	10	
03	Electric Power Steering	CAN KWP	3	
				Connect
				_
				Next
				Exit
	Vehide Selection Rectal Functions		_	
Desti	nation KIA	â	[
Mode	l: Rio (2006-2009) ▼	Scan for Units	(Clear	all DTCs
Engir	Diesel			
Read	у,			

Once the vehicle is selected the Abrites diagnostics for Hyundai and Kia will display all the possible modules that may be integrated into this specific vehicle. It will display all the protocols in which these electronic components communicate.

In order to begin diagnostics the Scan for units button needs to be selected. Then the software will begin testing all the electronic modules. It will display them and the DTCs they contain.

Once the diagnostics is complete the user can choose to enter each specific electronic module within the tested vehicle.

Motor Electronics	Rentrate		×
Establishing diagnostic session with selected unit		~	
Diagnostic channel is open			Previous
Electronic Control Unit Identification			
CAL NO : GAPA-BE52F			Clearle
Boot Software Number : 17911001			Clear IO
ECU Software Number : 9001090358			
		=	
Sys Supplier Software Number : CK410K01			Write lo
Fault Codes			
P0122 "Throttle/Pedal Position Sensor/Switch ""A"" Circuit Low"			
P0105 Lost Communication with Instrument Panel Cluster (IPC) Control Module P0107 Manifold Absolute Pressure/Barometric Pressure Circuit Low Input			🔶
P0626 Generator Field/F Terminal Circuit High		Ŧ	Next
Identification Actual Values Read DTCs Reset Custor	n Memory	ABRI	TFS
	/ Winde	automotive	solution
			_
Adaptation Actuator tests Clear DTCs Custom Request			
	lose		

- The Identification button will provide full module identification i.e. make, model, date of manufacturing, etc.
- The Actual values button will show the actual values of the current vehicle in real time.
- "Read DTCs" will show the current diagnostic trouble codes for the selected electronic module.
- The Adaptation button will show the options for unit adaptation.
- Actuator tests" will allow the user to test various actuators within the selected electronic unit.
- Clear DTCs will clear the diagnostic codes present in the module.
- ⁶ "Custom request" allows advanced users to send binary signals to the modules.
- Custom Memory Read/ Write" lets the user update the configuration of the unit.
- "Reset" will reset the module.

3. Special functions

The Special functions included in the Abrites diagnostics for Hyundai and Kia are designed to assist the user to perform specific operations also known as advanced diagnostics.



3.1 Key Learning

This special function allows the user to perform key programming for the vehicles from the Hyundai and KIA brands. It is used with or without the PIN by VIN function (which allows the PIN code for key learning to be calculated using the VIN number of the vehicle) or using the Read PIN code function (which extracts the PIN code from the vehicle). The functions allows key programming on cars equipped both with keyless or mechanical keys.

PIN code extraction by VIN.

Input the last 6 digits of the VIN number of the vehicle and press "CALCULATE".

The by the calculator (for ven	
VIN (last 6 digits)	189915
PIN Code	034368
Calculate	Cancel

PIN code extraction from the vehicle.

When this function is selected the user should selct the key type of the vehicle:



When the Smart Key type is selected, you need to follow the software onscreen instructions:



If the mechanical key type is selected, ensure that the message is read and that its content corresponds to the vehicle:

ABRITES [Diagnostics for Hyundai and KIA	×
0	This function should be used when the PIN code is unknown. It will read, verify and display the PIN code from the Immobilizer control unit. This PIN code should then be used in the Key Learning special function.	
	Currently supported ECUs for automatic PIN code reading: - KEFICO (with Flash ST10F275) - Bosch EDC17C57 - Bosch EDC17C08 - Bosch ME17.9.11 - Bosch EDC16C39 - Bosch EDC15C2 - Delphi DCM3.7 Do you want to attempt to read the PIN code?	
	Yes No	

After that is done the software will calculate the PIN code and provide it to the user.

Key learning.

Once the PIN code of the vehicle has been retrieved the user can proceed to perform key learning. When the key programming option is opened the user should see the following screen:

Key Learnin	g	
	PIN Code	034368
	Teach	Cancel

At this point the user should place the key in the ignition and press "Teach". Once that is done the user should follow the onscreen instructions closely and read each message that comes up carefully.

3.1.1 Key programming and reading PIN using a working key, ProTag and TA31 extractor.

You can also read the PIN and program a key if you have a working key to the car. In this scenario, you can use the TA31 extractor together with the working key to switch IGN on and obtain the PIN.

You can follow these steps to read the PIN from a wokring key and program a new one:



Open your Abrites Diagnostics For Hyundai/Kia Software:

Protocol DTC Freeouting K / CAN Freeouting K / CAN Freeouting K - Line Freeouting Line Freeouting CAN Freeouting K - Line Freeouting K - Line Freeouting R - Line Freeouting R - Line Freeouting R - Line Freeouting R - CAN Freeouting K - CAN Freeouting	AB	RITES Diagnostics for Hyundai and KIA 3.0 v	www.abrites	- ×
K / CAN K / CAN K-Line K-Line K-Line CAN K-Line	#	Unit Name	Protocol DTC -	
K / CAN	01	Motor Electronics	K / CAN	Previou
K-Line K-Line Com CAN K-Line K-Line K-Line K / CAN)2	Engine Control Unit (EOBD)	K / CAN	
K-Line Come 1 K / CAN CAN K-Line Next S CAN K / CAN)3	EDC-15c2	K-Line	
1 K / CAN CAN K-Line a CAN K / CAN)4	Immobilizer	K-Line	Conne
CAN K-Line a CAN K / CAN	5	Electronic Transmission Control	K / CAN	
R-Line Next	6	Anti-Lock Brake System (ABS)	CAN	
m CAN	07	DOHC Smartra	K-Line	Next
R / CAN	8	Tire Pressure Monitoring System	CAN	
	9	Electric Power Steering	K / CAN	×
► Exit	T		•	Exit
tions	08	Tire Pressure Monitoring System Electric Power Steering while Selection 👔 Special Functions 🎼 Options	CAN K / CAN	
	Pro	Key PIN-by-VIN Read-PIN Read-PIN from Program Dump-Tool ECU Flasher Club ramming Code working-key Remote Calibri	ter Read/Update ation ConfData	Open

Insert a working key TA31 into the PROTAG programmer (must be directly connected to the PC via the USB cable). If not recognized, this means the key is not supported.

or several seconds then it is
reading
eading

Remove the TA31 extractor when prompted and insert the working key into the PROTAG programmer.





Remove the working key and switch the IGN ON 3 times together with the working key and TA31:



The TA31 extractor can be placed together with the working key as shown in the photo below:



The software will prompt you to insert the TA31 extractor into the PROTAG programmer once it is ready and will display you the PIN code. This will allow you to program a spare key to the car.

3.2 Remote programming

In some cases the remote control cannot be programmed with the key. It is then when the remote programming function is most helpful.

When the function is selected the user you will see the following screen. Once it comes up the user should follow the on-screen instructions closely:

3.3 Dump tool

The Dump tool special function allows the user to read, save and modify Configuration data, read pin codes and others using a programmer to read the dumps from different units.

Dump Type: Cluster	Cal	.ibr	rat	ion																							
Cluster	Cal	ibr	at	ion	_																						
				TOU	Ну	und	lai	93	lc5	6	(20	04	-20	008	3)	- 27	Acc	ent	,	Ver	a	Cruz	ε,	F .	•	F	11 7
01200000	0 25	11		D0 4		75	0.0	21		0.0	DF	11	10	00			D	10								Load	
0139600	19 35	11	30 0	C4 0	4 C4	10	03	21	44	35	CO	0.6	01	00			D.u.	.:		•					^		
0139010 0	10 20	52	OF	D9 2	2 FC	85	86	11	10	25	09	FS	C0	00	D	۰.											
0139020	32 3F	09	34	C0 0	8 60	FF	CE	FD	88	12	20	22	AB	OF	2	4											
0139030	80 22	00	90	3B A	0 00	10	91	00	00	6D	82	18	91	00				m								-	
0139C40	00 3D	D9	64	10 9	5 09	40	54	08	5F	10	38	01	09	4F	.=.	d.		C		5							
0139050	51 08	DF	OF	00 8	1 DA	15	5F	FO	10	00	3B	60	01	10	0				•								
00139060	5F 10	09	80	91 0	0 00	FD	99	FF	D4	65	09	FF	CO	08				e								Save	
0139070 1	AE 34	DA	17	SF F	0 DC	80	D9	32	10	95	OC	2F	8B	4F	.4.			2	1.0	C							
0139080 0	02 FO	91	00	00 2	D D9	22	10	95	10	2F	oc	FO	DF	3F			".	/		?							
00139090 :	LB 80	3B	50	01 0	0 09	2F	54	08	7E	03	82	01	28	01	;	Ρ.	/1	·.~.	. (
00139CA0 :	3B 60	01	00	7E 0	3 82	11	28	01	3B	70	01	00	7E	0B	: .	.~	((.;p.	~								_
00139CB0 8	32 20	0C	2F	8B 4	F 02	FO	91	00	00	2D	D9	22	1C	95		1.0	0		۰.							2	ł
0139000 :	LO 2F	28	00	91 0	0 00	5D	99	56	D4	65	09	60	CO	80	./(].	V.e.	· · ·							-	
00139CD0 (5F 80	6B	80	37 0	0 E1	F3	91	00	00	4D	EE	3A	D9	33	o.k	.7		M.		3						Swap Byt	es L
00139CE0 :	LC 95	BB	C0 1	FF 1	F 91	00	00	5D	09	60	45	08	8F	CO				.].`I	c								_
00139CF0 (DF 01	0C	3F	86 2	F D9	55	C4	75	91	00	00	3D	01	50		2.,	/.0.	.u	=.1	P							
00139000 (00 26	8B	8F	02 F	0 D9	44	FC	85	D9	33	1C	95	54	20	. ۵.	••	D.	3.	T								
00139D10 :	10 3F	68	00	0C 6	5 16	FC	92	4F	10	5F	48	00	59	30	.?h		e	.0I	I.Y	0							-
00139D20 :	34 00	91	00	00 3	D 09	60	44	80	86	10	0C	65	16	FC	4	•••	=.`I	····	е.	•							
00139D30 I	09 33	CC	75 (C2 1	0 10	32	26	10	DF	00	33	00	8F	EO	.3.	u.	28	•••••	3							Paramete	rs.
00139D40 :	LF FO	60	F3 1	D9 3	F FF	FF	44	2F	64	4F	FC	FE	3C	29		•••	?E)/d0.	.<)							
JU139D50 9	91 00	00	2D 1	U9 3	F 10	95	91	00	00	5D	09	55	CC	75		-•	?		.0.1	1						L	-
JU139D60 I	J9 22	C4	/5	UC F	r 86	2F	D9	44	FC	85	19	20	04	00		u.		u	• •								
DOT2AD/0 :	54 21	8B	SE I	UZ F	0 68	00	вВ	CO	EE	UE	91	00	00	rD or	11.	•••	·n. ·		• • •	•2							
DOT23D80 1	Da LE	TC	95	TOF	r 68	01	UC	04	86	TL.	92	TE.	20	0F.		••	·n. ·	.a	•••	•							_
<																								Þ		×	
																										\sim	
																										Close	

The Parameters button shows the modifications to the different parameters that can be applied.

arameter	Val	ue
dometer		
	~]
	\sim	

3.4 ECU Flasher

The ECU flasher lets the user read and update the Configuration Data and Flash of engine control units. It lets the . bin files read to be saved locally to the user's computer and stored for later usage.

There is also an additional Help button to provide further assistance to the user.

ngine Cor	ntrol	Unit	- Sp	pecia	al Fu	ncti	ons	2	100	_		_		_	2	-		annes alle film	
CU	ED	C 1	160	:39	в	os	СН										•	ECU type help	Read E2P
00000000	00 00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			lude comp
0000020	00 00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			update Contrat
0000040	00 00	00 00	00 00	00	00 00	00	00	00 00	00	00	00	00	00 00	00	00	00 00			
0000060	00 00	00 00	00 00	00	00 00	00	00 00	00	00	00 00	00 00	00	00	00	00 00	00			Read Flash
0000000		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
00000B0		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		E	Write Flash
00000D0		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
00000F0	00 00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
0000110	00 00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Save to File
0000130	00 00	00 00	00 00	00	00 00	00	00	00 00	00	00 00	00 00	00	00 00	00 00	00 00	00 00			
0000150	00 00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Load from File
0000170		00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			
<	5 00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			×
																			Close

	×
Model	Motor
sportage	▼ 2.0 CRDI 16V ▼
15C2	
	Exit
	Model

3.5 Cluster calibration

Cluster calibration is a function designed to help the proper functionality of a vehicle after replacing a module with a second hand unit. It assists the user to avoid mismatches in the values of different counters in order for the vehicles to function correctly.

When this function is selected the user will have the option to select the model and year of the vehicle.

ehicle Selection	1112201	x
C KIA Ceed 2011 +	C Hyundai I20 / Accent 2011 +	
C KIA Magentis 2011 +	🔿 Hyundai Elantra 2011 +	
C KIA Rio 2011 +	○ Hyundai Solaris 2011 +	
O KIA Optima 2011 +	○ SsangYong Korando 2011 +	
O KIA Sorento 2011 +		
○ KIA Soul 2011 +		
○ KIA Sportage 2011 +		
	/ X	
	Cancel	

The following message is very important and selecting "I confirm" should be in coordination with local regulations.

I his procedure will change the the mileage of the car.	numerical value in the electronic co	mponent that shows
Before this procedure, please approvals, and certificates. Ac follow all the established proce automobile specifications.	make sure that you have all the new cording to local legislation of your co dures for this service activity, as we	cessary permissions, untry, you should II as comply with
In case you have all the nece	ssary authorization, after procedure	completion, please do
not forget to refer to all perfor repair, invoices and any other	rmed actions in all required documer technical, accounting or commercial	ts: offers, orders for documents.
Please confirm that you have procedure will be done at your	rmed actions in all required documer technical, accounting or commercial read and understood this warning a request.	ats: offers, orders for documents. Ind that the subsequent
Please confirm that you have procedure will be done at your	rmed actions in all required documer technical, accounting or commercial read and understood this warning a request.	ats: offers, orders for documents. Ind that the subsequent

From then on the user should get the current vehicle value, place the correct new value and click the "Set" button.

Cluster Calibration	April 1997	
Get Current	31508	Cet Mileage
New Mileage	32494	Set Mileage

ABRITES Diagnostics for Hyundai	and KIA
Mileage Recalibration	n successful
	ок

3.6 Read/ Update Conf Data

This function allows the Configuration data from the vehicles to be updated via On Board Diagnostics (OBD). The files can be saved locally to the user's computer, updated, viewed and uploaded later.

Custom	Mer	noŋ	/ Do	wnl	bad	/ U	oloa	d	-											-	×
Type:	In	st	ru	me	nt	C	lus	ste	er	кі	A	So	re	nt	0 :	201	114	t	-		Read
0000E	200	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		*	5	E2P
0000E	2D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	2E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	2F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	300	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Upd	ate ConfData
0000E	310	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	320	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	330	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	340	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	350	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	360	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				Save to file
0000E	370	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
10000E	380	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
10000E	390	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
LOODOR	3AU	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
LOODOE	350	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Lo	ad from file
00000	300	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
00000	320	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Connection	
00000	350	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			St. Address	0
00000	400	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				· · · · · · · · · · · · · · · · · · ·
00000	410	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
ODODE	420	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	430	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Total Size	10000
0000E	440	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	450	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
0000E	460	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Step	20
0000E	470	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00			Step	· · · · · · · · · · · · · · · · · · ·
0000E	480	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00				
																			-		
•																			F.		~
																					\wedge
12																					dana
10																				1	Close
		-	-	-		_	-		_	_	-	_	-								

NOTE:

For a full list of supported models please visit <u>abrites.com</u>

4.0 Neutralization

The Neutralization function allows the use of second-hand modules in Hyundai/Kia vehicles.

For vehicles with a smart key:

- neutralization (allowing adaptation in other vehicles) of the smart system
- neutralization (allowing adaptation in other vehicles) of the ECU
- neutralization (allowing adaptation in other vehicles) of the ESCL
- neutralization (allowing adaptation in other vehicles) of the PDM (for vehicles equipped with PDM)

For vehicles with a mechanical key:

- neutralization (allowing adaptation in other vehicles) of the immobiliser this automatically neutralises the ECU as well
- neutralization (allowing adaptation in other vehicles) of the Smart module (for vehicles that are equipped with one)

Live data demonstrating the state of the modules (neutralized/active) and the number of initialized keys is shown in the function window.

Whenever neutralization is performed, the keys have to be re-learned to the vehicle after installing a neutralized module. To access the neutralization function, you can follow these three steps:

Open the Hyundai/Kia software, followed by Neutralization:



2.

Enter or read car's PIN:

eutralization	×
PIN Code	
Select vehicle's key type	
 Smart key 	
C Mechanical key	
Read PIN Next	Cancel

Click next once the PIN is read and follow the software guidance:

Veutralization	×
PIN Code 234556	
-Select vehicle's key type	
🕫 Smart key	
C Mechanical key	
Connecting to Smart Key Unit	
	×
Read PIN Next	Cancel

5.0 PIN code reading, key programming and module initialization - internal CAN

NOTE! This functionality is old, you are now able to read the PIN Code by OBDII using the KIA Hyundai Online software!

In order to use the HK008 and HK009 software to perform PIN CODE READING, KEY PROGRAMMING and MODULE NEUTRALIZATION for the latest models of KIA and Hyundai vehicles (for example: KIA Cee'd generation CD, KIA Stinger, Hyundai Santa Fe generation TMA and other models, mostly produced after 2018+) the Abrites diagnostics for Hyundai/ KIA will require you to perform a connection to the internal CANBUS of the vehicle. Below you will find examples of such connections.

If such connection is required Abrites Diagnostics for Hyundai/ KIA will prompt you with a message.

The way to do this is to connect using your ZN041 or ZN051 distribution box to your AVDI and connect the distribution box to the OBD of the vehicle as well.

The next step is to connect the supplied (in the ZN041 and ZN051) needle pinch connectors to the internal CAN H and CAN L.

Once this is done you have to find the 3-11 (CAN H and CAN L) on the ZN041 or ZN051 and connect the CAN needle pinch connectors.

The Abrites Diagnostics for Hyundai/ KIA detects the need to connect to the internal CANBUS automatically and then prompts you to do so.

We advise you to be prepared with a ZN041 or ZN051 at all times when working on newer (2017+) KIA/ Hyundai vehicles so that if you need to connect you can be ready.

It is very important to keep both the OBD and the internal CAN pinch needle connectors connected as well.

Below you can see a few examples of where to find the internal "B-CAN" cables in Hyundai/Kia cars so you can connect:

1. DRIVER IMS MODULE - under the driver's seat ("S02-C" connector):



1.1 "S02-C" connector:

S02-C	Driver IMS Module			
			Vender P/No.	MG655759
			Vender P/Name	KET_025II_28F
		7 654 2120191	4 3 2 1 8 17 16 15	
1. Br/B	Driver Seat Manual Switch (Driver Slide FR Switch)	15. G	Driver Seat M (Driver Slide	Anual Switch RR Switch)
2. Gr/B	Driver Seat Manual Switch (Driver Reclining FR Switch)	16. O	Driver Seat N (Driver Recli	/anual Switch ning RR Switch)
3. Y/B	Driver Seat Manual Switch (Driver Front Height Adjuster Up Signal)	17. Gr	Driver Seat N Front Height	Anual Switch (Driver Adjuster Down Signal)
4. Y/R	Driver Seat Manual Switch (Driver Rear Height Adjuster Up Signal)	18. P	Driver Seat N Rear Height	Anual Switch (Driver Adjuster Down Signal)
5		19	-	
6. L/B 7. R/W	B-CAN (High) B-CAN (Low)	20. B/W	[LHD] Groun [RHD] Groun	d (GF01) id (GF03)
8. Y/W	IMS Switch (SW1)	21. Lg	IMS Switch (SET)
9. W/B	Driver Reclining Limit Switch (FR)	22. L/W	IMS Switch (SW2)
10. Lg/B	Driver Slide Motor (Signal)	23. L/Y	Driver Reclin	ing Limit Switch (RR)
11. G/W	Driver Front Height Adjuster Motor (Signal)	24. G/B 25. L	Driver Reclin Driver Rear I	ing Motor (Signal) Height Adjuster Motor
12			(Signal)	
13. R/B	Sensor Power	26	-	
14. Br	ICU Junction Block (Fuse - F16)	27		
	151 2	28. Gr	ICU Junction	Block (Fuse - F2)

2. Right Side of HVAC case - IBU Module - "M04-B" Connector:



2.2 Right Side of HVAC case - "M04-B" IBU Connector:

M04-B	IBU		WRK P/No.	Not Available
	Weinfelder.		Vender P/No.	MG656874-41
			Vender P/Name	KET_025060_36F
		987	6 5 4 3	2 1 20 19
1. Gr	Multifunction Switch	19. P	Multifunction	Switch
	(Front Washer Switch Signal)		(Rear Washe	r Switch Signal)
2	And a state of the second seco	20	-	
3	the second se	21. G	Nozzle Heate	er (-)
4. W	Door Warning Switch (Key Input)	22	-	
5	The second second second second second	23. Gr	Console Swit	tch (Parking Distance
6. L	ICU Junction Block (Fuse - F23)		Warning Swit	tch (IND.))
7. Gr/O	Auto Light & Photo Sensor	24. Y	Multifunction	Switch
	(Security LED)		(Wiper Switch	h Signal)
8. L/O	Brake Switch Signal	25. Br	Multifunction	Switch
9. P	Haptic Out : Haptic Motor		(Rear Wiper	B/UP Switch Signal)
10. O	Multifunction Switch	26. Gr	Multifunction	Switch
	(INT./VOL Switch Signal)		(GND (BCM))
11. B/O	Door Warning Switch (ILL. Out)	27. W	PCB Block (\	Viper Relay)
12		28. Y	Auto Light &	Photo Sensor
13	-		(Sensor Grou	und)
14		29. L	Auto Light &	Photo Sensor
15 B	B-CAN (Low)		(Sensor Sign	al)
16. W	B-CAN (High)	30. G/O	Auto Light &	Photo Sensor
17. B	Ground (GM03)		(Sensor Pow	er)
18. B	Ground (GM03)	31. L	ICM Relay B	ox (Rear Wiper Relay
		32. Br	PCB Block	
			(Front Wiper	(High) Relay)
		33. R	PCB Block	and the second second
			(Front Wiper	(Low) Relay)
		34. Br	Multifunction	Switch
			(Wiper Low E	3/UP Signal)
		35. Y	P-CAN (Low))
		36. B	P-CAN (High	



2.3 Right Side of HVAC case - "M04-B" IBU Connector:

3. ICU Module - Left side of crash pad "ICU-G Junction Block " white connector:



3.1 ICU Module - connector pinout:



4. Wireless Charger Unit M63 - lower center of crash pad:



Lower Center of Crash Pad

4.1 Wireless Charger Unit M63 - connector (12 white):

