# **Entering Function Menu**

## Engine System

Read Fault Memory Clear Fault Memory Read Data Stream Component Activation Version No.

# Transmission System

Read Fault Memory Clear Fault Memory Version No.

# Antilock Brake System

Read Fault Memory Clear Fault Memory Read Data Stream Version No.

# Air Bag

Read Fault Memory Clear Fault Memory Version No.

# Air Conditioning/Heater

Read Fault Memory Clear Fault Memory Read Data Stream Version No.

# **Instrument Panel**

Read Fault Memory Clear Fault Memory Service Reset Version No. Manual Service Reset



## Entering Function Menu HOME

After connection, press **[POWER]** key to start X-431. After starting the main unit, press **[HOTKEY]** (or click **[Start]** button on **the main menu**, and select **[GAG] [GD Scan]** on the pop-up menu), the screen will display the home page of vehicle diagnosis as shown in figure to left.

#### Button descriptions:

[START]: to perform next operation [QUIT]: to exit the diagnostic program [BOX INFO.]: to display SMARTBOX version No. [HELP]: to display help information

SELECT VEH:	ICLE MAKE
G	
PAGE UP	PAGE DOWN
BACK	HELP
tart)	 - 谷·   展現 09:5

Click **[START]** button, the screen will display **the vehicle make menu** as shown in figure to left.

#### Button descriptions:

[BACK]: to return to the upper interface.

[PAGE UP]: to display the previous page, it is inactive if the current page is the first page.[PAGE DOWN]: to display the next page, it is inactive if the current page is the last page.[HELP]: to display the help information.



Click the icon of BMW on the vehicle make menu, the screen will display as shown in figure to left.

SELECT	DIAG. :	SOFTWARE	VER.
BMW V13.07 A	ll Syste	20S	
			2
-			
The software control sys.	can dia of BMW	ignose ti up to 2	he elec. 003,include
INGINE/CHASS	IS/BODY n is the	and oth	er parts. s the
priginal sca	n tool.		
PAGE UP	PAGE	DOWN	OK
Junite of	BACK		HELP
Start) D		-0-	BANG 00+57

Click [BMW V13.07 All Systems], the screen will display as shown in figure to left.

The software can diagnose the electronic control systems of BMW up to 2003, including ENGINE/CHASIS/BODY and other parts.



Click **[OK]** button, X-431 begins reset and check the SMARTBOX, and download the diagnostic program from the CF cartridge. After download, the screen will display as shown in figure to left.

#### Button descriptions:

[OK]: to go on test.

	CAR CI	HASSIS	
3'/Z1_E30			
3'/Z3_E36			2
3'_E46			8
5'_E28			
5'_E34			
5'_E39			
6'_E24			
7'_E23			
PAGE	C UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 📭		*	1 09:58

Click **[OK]** button, the screen will display the menu of chassis type. See figure to left.

#### Button descriptions:

[BACK]: to return to the upper interface.

[**PAGE UP**]: to display the previous page, it is inactive if the current page is the first page.

[**PAGE DOWN**]: to display the next page, it is inactive if the current page is the last page.

[HOME]: to return to the home page of vehicle diagnosis.

[HELP]: to display the help information.

X-431 BMV	VDiagnosis
-----------	------------

	CAR CI	HASSIS	
7'_E32			1
7'_E38			1
7'_E65			1
8'_E31			3
X5_E53			
Z8_E52			
MINI_R50			
Diagnosti	c Socket L	ocation	
PAG	E UP	PAGE	e down
HOME	BACK	PRIMI	HELP
Start 다	•	×	 ₩ 10:00

	CAR CI	HASSIS	
3'/Z1_E30			
3'/Z3_E36			
3'_E46			
5'_E28			5
5'_E34			
5'_E39			
6'_E24			
7'_E23			
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 🗖	•	<u>ې</u>	₩ 09:58

	SELECT DL	AG. SYSTEM	1
DME (Engi	pe)		
EGS (Tran:	mission)		2
ABS (Anti.	lock brake	)	
SRS (Air 1	oag)		8
IHKA/IHKR	(AC/beate	r)	
IKE/IKI/K	DMBI		
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRIM	HELP
Start) 다	,	×	 ₩ 10:07

Click [3 /Z1\_E30] button, the screen will display as shown in figure to left.

ECU IDE	MIIFY
DME M1.7 M40 BOCSH H/W No. BOCSH S/W No. BMW H/W No. BMW S/W No. PRODUCT No.	0261200410 1267350603 1727493 000 466
۵۳ Start) ک	; ☆ <b>ឝ</b> 10:08

# **Engine System**

<u>HOME</u>

-	ELECT DIA	G. FUNCTIO	010
Read faul	t memory		
Clear fau	lt memory		
Data stre	300		
Component	activatio	n	
Identific	ation		2
PAG	E UP	PAGE	C DOWN
HOME	BACK	PRIM	HELP
Start) 📭		<u>ې</u>	<b>E</b> 10:13

## Read Fault Memory

<u>HOME</u>

Click [**Read fault memory**] button, the screen will display as shown in figure to left.

	ELECT DIA	G. FUNCTIO	010
Read faul	t memory		
Clear fau	lt memory		
Data stre	300		
Component	activatio	n	
Identifica	ation		2
PAG	e up	PAGE	: DOWN
HOME	BACK	PRIM	HELP
Start) 📭		ġ.	₩ 10:13

SELECI DL	AG. FUNCTION
Are you sure to	clear fault memory?
YES	NO
štart) 📭	 ☆  10:14

## **Clear Fault Memory**

<u>HOME</u>

Click [Clear fault memory] button, the screen will display as shown in figure to left.

SELECT DIAG.	FUNCTION
Trouble code has	been erased.
8 <u></u>	
OR	
Start 📭	资 📾 10:15

5	ELECT DIA	G. FUNCTIO	N
Read faul	t memory		
Clear fau	lt memory		2
Data stre	300		
Component	activatio	n	
Identific	ation		7
			i.
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 📭			1 20:13

	SELECT I	ATA ITEM	
Engine Spea	ed		ŝ
Ignition ti	iming		ŝ
Coolant ten	աթ.		
Intake air	temp.		
Injection s	signal cy	linder l	
Close loop	control		
02 sensor h	neater		
02 sensor v	oltage/		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		×	 ₩ 10:16

#### **Read Data Stream**

### <u>HOME</u>

Click [Data stream] button, the screen will display as shown in figure to left.

	SELECT D	ATA ITE	M
Load signal	2		
Airflow sen	sor sign	al	
CO potentio	meter		
Vehicle spe	ed		
Battery vol	tage		
Fuel pump r	elay		
DWA switch			
Tank ventil	ation		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRIN	HELP
Start) 📭		ò	E E 10:17

	SELECT D	ATA ITEM	I
Cylinder de	tection		ŝ
TPS switch			1
TPS sensor			
Ignition ti	ming int	erventio	n
Driving pos	ition		
AC compress	or		
AC switch			
PAGE UP	PAGE	DOUN	OK
HOME	BACK	PRINI	HELP
Start) 📭		×	E 10:17

	SELECT D	ATA ITEM	1
Load signal	<u>8</u>		
Airflow sen	sor sign	al	
CO potentio	meter		1
Vehicle spe	ed		
Battery vol	.tage		
Fuel pump r	elay		
DWA switch			
Tank ventil	ation		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭	- ÷	ġ.	E 10:17

	SELECT D	ATA ITEM	
Engine Spe	ed		1
Ignition t	iming		
Coolant te	mp.		-
Intake air	temp.		
Injection :	signal cy	linder l	
Close loop	control		
02 sensor 1	neater		
02 sensor v	voltage		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		<u>نې</u>	 ₩ 10:16

	SELECT D	ATA ITEM	1
Engine Spee	d		
Ignition ti	ming		
Coolant tem	թ.		
Intake air	temp.		2
Injection s	ignal cy	linder l	
Close loop	control		1
02 sensor h	leater		
02 sensor v	oltage		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		<u>ک</u>	 ₩ 10:47

Click the items you want to see, e.g. **Engine speed**], **[Ignition timing**], **[Intake air temp.]** and **[Injection signal cylinder 1]**. The screen will display as shown in figure to left.

	DATA	STREAM		
Engine Sp	eed	1	0 rp	D
Ignition	timing	8	108	•
Intake ai:	r temp.	2	193.	0 C
Injection 1	signal c	zylinder	131.	1 ms
PAGE UF	PAG	e down	GF	APHIC-1
HOME	BACK	BACK PRINT		HELP
(Start) 💽 🔆				<b>Hans</b> 10:48

Click [**OK**]. The screen will display the real-time values of the selected items, as shown in figure to left.

#### **Button descriptions:**

[GRAPHIC-1]: to display the waveform of an active data.

[PRINT]: to print out the test result.

	DATA :	STREAM		
Engine Spe	eed	r	Jun	
0				
PAGE UP	PAGE	DOWN	GRAPHIC-:	2
HOME	BACK	PRIM	HELP	
Start) 📭	•	ġ.	E E 10:	49

Click **GRAPHIC-1**]. The screen will display the waveform for one data stream item. See figure to left.

#### Button descriptions:

[GRAPHIC-2]: to display tow data steam waveforms.

	DATA	STREAM		
Engine Spec	ed	8	rpw	
0 _1				
Ignition t:	iming	3	0	
107				
PAGE UP	PAGE	DOWN	I	DIGITAL
HOME	BACK	PRIN	т	HELP
Start 📭		X	÷	₩ <b>3</b> 10:49

Click **[GRAPHIC-2**] to display waveforms of two data stream items. It is convenient to make comparison between two correlative data stream items. See figure to left.

		DATA	STREAM		
Engine Sp	eed		į.	0 ŋ	an an
Ignition	timi	ng	6	108	0
Intake ai:	r te	աթ.	8	193.	.o rc
Injection	51g	nai cy	Tipger	131.	.1 103
PAGE UI	2	PAGE	DOWN	G	RAPHIC-1
HOME	BACK		PRI	n	HELP
Start) 📭		-	<u> </u>	÷	₩ 10:48

Click [**DIGITAL**] in the interface, the screen will display the real-time value of the data stream again, as shown in figure to left.

	SELECT D	ATA ITEM	
Engine Spe	ed		Č.
Ignition t	iming		
Coolant te	mp.		
Intake air	temp.		
Injection	signal cy	linder l	
Close loop	control		
02 sensor	heater		
02 sensor	voltage		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start 📭		<u>``</u>	<b>E</b> 10:16

:	ELECT DIA	G. FUNCTIO	0N
Read faul	t memory		
Clear fau	lt memory		2
Data stre	300		5
Component	activatio	n	2
Identifica	ation		*
			9
			6
		1	
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start)	•	×	1 10:13

	ACTIVAT:	ION TEST	
Idle actua	ator		
Tank venti	ing valve		2
Injectors,	, cyl. 1+3	į	
Injectors,	, cyl. 2+4		
025 heater	c relay		2
AC compres	ssor relay	i.	
PAGE	C UP	PAGE	: DOWN
HOME	BACK	PRIMI	HELP
Start) 📭		\$	I ₩ 10:50

#### Component Activation

#### <u>HOME</u>

Click **Component activation**]. The screen will display a list of items for activation test, as shown in figure to left.



Click one item in the list to perform the test.

Now we take [**Idle actuator**] as example to explain the test steps:

Click [Idle actuator]. X-431 starts testing idle actuator.

When the test is successful, the screen will display the message as shown in figur e to left.

### Button description:

**[OK]**: to return to the upper level interface.

	ACTIVAT	ION TEST	
Idle actua	ator		
Tank vent:	ing valve		2
Injectors,	, cyl. 1+3	<u>ś</u>	
Injectors,	, cyl. 2+4		
025 heater	r relay		
AC compre:	ssor relay		
	****		
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 📭	,	<u>ي</u>	E 10:50

	ELECT DIA	G. FUNCTIO	N
Read faul	t memory		
Clear fau	lt memory		2
Data stre	300		
Component	activatio	n	
Identifica	ation		
			ĺ
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start)	•	×.	₩ 10:13

ECU IDE	MIIFY
DME M1.7 M40 BOCSH H/U No. BOCSH S/U No. EMU H/U No. EMU S/U No. PRODUCT No.	0261200410 1267350603 1727493 000 466
OK Start)⊡⊋	: -ඊ- <b>ස</b> 10:08

## Version No.

### <u>HOME</u>

Click **[dentification**] in the function menu. The screen will display the information on ECU version of engine system, as shown in figure to left.

:	ELECT DIA	G. FUNCTIO	IN
Read faul	t memory		
Clear fau	lt memory		3
Data stre	Em		
Component	activatio	n	
Identific	ation		
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRIM	HELP
Start)	•	×	1 20:13

	SELECT DL	AG. SYSTEM	2
DME (Engi	ne)		
EGS (Tran:	mission)		÷.
ABS (Anti:	lock brake	)	
SRS (Air H	oag)		
IHKA/IHKR	(AC/heate	r)	
IKE/IKI/K	DMBI		
PAG	E UP	PAGE	DOWN
HOME	BACK	PRINI	HELP
Start) 다	,	<u>ک</u>	I ₩3 10:07

ECU IDEMIIFY		
Jecs 5-speed A5S 300J(Jat Jatco NO. ROM NO. Version NO. BMW H/W NO.	trans. tco RLA) 000000000 00000000 000000000	
OK	PRINI	
(Start) 🕞	资 圖 11:52	

# Transmission System HOME

Click **[EGS (Transmission)**] button. The screen will display the information on ECU version of transmission system, as shown in figure to left.

\$	ELECT DIA	G. FUNCTIO	0N
Read faul	t memory		
Clear fau	lt memory		
Identifica	ation		
	1999 A. ARD BEL		
8			e
÷			
i.			2
3			
		-	
PAG	E UP	PAGE	: Down
HOME	BACK	PRIM	HELP
Start) 🖸	•	×	E 12:03

Click **[OK]** button. The screen displays the function menu of the transmission system, as shown in figure to left.

SELECT	DIAG.	FUNCTION	
No	Fault	Code	
OK		PRIMI	
Start) D2		·谷 <b>岡</b> 10	5:37

#### **Read Fault Memory**

<u>HOME</u>

Click [**Read fault memory**] button, the screen will display as shown in figure to left.

2	ELECT DIA	G. FUNCTIO	010
Readifault	t memory		
Clear fau	lt memory		
Identific	ation		
-			
-			
			ŝ
-			
		1	
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 📭	•	<u>ې</u>	E 12:03

SELECT DIA	G. FUNCTION
Are you sure to c	lear fault memory?
YES	NO
Start) 📭	」 · · · · · · · · · · · · · · · · · · ·

## **Clear Fault Memory**

<u>HOME</u>

Click [Clear fault memory] button, the screen will display as shown in figure to left.

SELECT DIAG.	FUNCTION
Trouble code has	been erased.
<u>8</u>	<u></u>
OK	
Start 📭	🄆 🖼 16:43

:	ELECT DIA	G. FUNCTIO	N
Read faul	t memory		
Clear fau	lt memory		
[dentific	ation		
			8
			÷
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRIM	HELP
Start) 📭	•	X	1 2:03

ECU ID	ENIIFY	
Jecs 5-speed ASS 300J(Jat Jatco NO. ROM NO. Version NO. BMW H/W NO.	trans. co RLA) 000000000 00000000 00000000	
OK PRIMI		
Start) 🕞	☆ ₩ 11:52	

## Version No.

### <u>HOME</u>

Click **[dentification**] in the function menu. The screen will display the information on ECU version of transmission system, as shown in figure to left.

\$	ELECT DIA	G. FUNCTIO	0N
Read faul	t memory		
Clear fau	lt memory		
Identific	ation		
-			2
1			
-			
-			
-		1	
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 🗖	•	<u>نې</u>	E 12:03

	SELECT DL	AG. SYSTEM	
DME (Engi	ne)		
EGS (Tran	smission)		ŝ
ABS (Anti	lock brake	)	
SRS (Air )	bag)		
IHKA/IHKR	(AC/heate	r)	
IKE/IKI/K	OMBI		
PAG	E UP	PAGE	DOWN
HOME	BACK	PRINI	HELP
Start)	•	×.	1 20:07



## Antilock Brake System HOME

Click **[ABS (Antilock brake)**] button. The screen will display the information on ECU version of antilock brake system, as shown in figure to left.

(1997) 1997 - 1997 - 1997 - 1		
-		

Click **[OK]** button. The screen displays the function menu of the antilock brake system, as shown in figure to left.

SELECT	DIAG.	FUNCTION
No	Fault	Code
OIR		PRIMI
Start) 🕞		·ờ· 🖽 16:3'

## **Read Fault Memory**

<u>HOME</u>

Click [**Read fault memory**] button, the screen will display as shown in figure to left.

-	ELECT DIA	G. FUNCTIO	N
Read faul	tmemory		
Clear fau	lt memory		
Data stre	3TD		
Identific	ation		
1			
			8
			ŝ
-			
PAG	C UP	PAGE	: DOWN
HOME	BACK	PRIM	HELP
Start) 📭	,	<u>ې</u>	<b>E</b> 17:32

SELECT DI	AG. FUNCTION
Are you sure to	clear fault memory?
YES	NO
itart) 📭	

## **Clear Fault Memory**

<u>HOME</u>

Click [Clear fault memory] button, the screen will display as shown in figure to left.

SELECT DIAG.	FUNCTION
Trouble code has	been erased.
Start 📭	🄆 🖼 16:43

:	ELECT DIA	G. FUNCTIO	N
Read faul	t memory		
Clear fau	lt memory		
Data stre	BDD		
Identific	ation		
			8
			ŝ
-			
· · · · ·		1	
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRIM	HELP
Start) 📭	•	×	E 17:32

<u>0</u>	SELECT I	DATA ITEI	1
Wheel spea	ed:Teeth:4	8/96 Fro	nt left
Wheel spea	ed:Teeth:4	8/96 Fro	nt right
Wheel spea	ed:Teeth:4	8/96 Rea	r left
Wheel spea	ed:Teeth:4	8/96 Rea	r right
Brake-ligh	nt switch		
retum pu	աթ։		
Valve-rela	ay voltage		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRIM	HELP
(Start) 📭		Ý	E E 17:30

#### Read Data Stream

#### <u>HOME</u>

Click [Data stream] button, the screen will display as shown in figure to left.

2.	SELECT D	ATA ITEM	1
Wheel spe	ed:Teeth:4	8/96 Fra	ntleft
Wheel spe	ed:Teeth:4	8/96 Fra	nt right
Wheel spe	ed:Teeth:4	8/96 Rea	r left
Wheel spe	ed:Teeth:4	8/96 Rea	r right
Brake-lig	nt switch		
retum pu	աթ։		
Valve-rel:	ay voltage		
]			
PAGE UF	PAGE	DOWN	OK
HOME	BACK	PRINT	HELP
Start) 📭	•	<u>نې</u>	18:07

Click the items you want to see, e.g. [Wheel speed:Teeth:48/96 front left], Wheel Wheel speed:Teeth:48/96 right], front speed:Teeth:48/96 left] [Wheel rear , speed:Teeth:48/96 right], [Brake-light rear switch], [return pump:] and [Vavle-relay voltage]. The screen will display as shown in figure to left.

	DATA :	STREAM		
Wheel spee Front left	d:Teeth:4	8/96	0.0/	0.0 km/h
Wheel spee Front righ	d:Teeth:4 t	8/96	0.0/	0.0 km/h
Wheel spee Rear left	d:Teeth:4	8/96	0.0/	0.0 km/h
Wheel spee Rear right	d:Teeth:4	8/96	0.0/	0.0 km/h
Brake-ligh	t switch		INAC	TIVE
retum pum	p:		Off	
Valve-rela	y voltage		12.0	۷
PAGE UP	PAGE	DOWN	GF	APHIC-1
HOME	BACK	PRI	NT	HELP
Start) 📭		1	¢.	<b>= 17:5</b> 7

Click [**OK**]. The screen will display the real-time values of the selected items, as shown in figure to left.

#### Button descriptions:

[GRAPHIC-1]: to display the waveform of an active data.

[**PRINT**]: to print out the test result.

	DATA :	STREAM	
Valve-relay	y voltage	V	0
12.0			
11.9	PAGE	DOWN	GRAPHIC-2
HOME	BACK	PRIM	HELP
Start) 📭		Ó	18:0

Click **GRAPHIC-1**]. The screen will display the waveform for one data stream item. See figure to left.

#### Button descriptions:

[GRAPHIC-2]: to display tow data steam waveforms.

	DATA	STREAM	
Valve-rela	ay voltage	1	1
12.0			
11.9			
ana san			
PAGE UI	P PAGE	: DOWN	DIGTTAL
HOME	BACK	PRIM	I HELP
Start) D	•		· 🖂 17:12

Click **[GRAPHIC-2**] to display waveforms of two data stream items. It is convenient to make comparison between two correlative data stream items. See figure to left.

0	DATA	STREAM		
Wheel speed Front left	:Teeth:4	8/96	0.0/	0.0 km/h
Wheel speed Front right	:Teeth:4	8/96	0.0/	0.0 km/h
Wheel speed Rear left	:Teeth:4	8/96	0.0/	0.0 km/h
Wheel speed Rear right	:Teeth:4	8/96	0.0/	0.0 km/h
Brake-light	switch	1000	INAC	IIVE
retum pump		}	Off	
Valve-relay	voltage		12.0	۷
PAGE UP	PAGE	DOWN	GR	APHIC-1
HOME	BACK	PRI	NT I	HELP
(Start) 📭			¢:	<b>E 17:</b> 57

Click [**DIGITAL**] in the interface, the screen will display the real-time value of the data stream again, as shown in figure to left.

2	SELECT D	ATA ITEM	1
Wheel spea	d:Teeth:4	8/96 Fra	nt left
Wheel spee	d:Teeth:4	8/96 Fra	nt right
Wheel spee	d:Teeth:4	8/96 Rea	r left
Wheel spee	d:Teeth:4	8/96 Rea	r right
Brake-ligh	nt switch		
retum pun	ւթ։		
Valve-rela	ny voltage		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		<u>ک</u>	 ₩ 17:30

\$	ELECT DIA	G. FUNCTIO	0N
Read fault	tmemory		
Clear fau	lt memory		
Data strea	am		
Identific	ation		
6			÷
÷			
3			
-			
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start)	•	<u>کن</u>	E 17:32

ECU IDEMIIFY
ABS-PG Hardware No. 2822000620 Software No.
OK
Start 🗣 🔅 🖼 17:19

## Version No.

### <u>HOME</u>

Click **[dentification**] in the function menu. The screen will display the information on ECU version of antilock brake system, as shown in figure to left.

:	ELECT DIA	G. FUNCTIO	ON
Read faul	t memory		
Clear fau	lt memory		
Data stre	am		
Identific	ation		
6			8
			2
			8
ş			
		1	
PAG	E UP	PAGE	C DOWN
HOME	BACK	PRIMI	HELP
Start) 🗖	}	<u>نې</u>	E 17:32

	SELECT DL	AG. SYSTEM	
DME (Engi	ne)		
EGS (Tran	smission)		ŝ
ABS (Anti	lock brake	)	
SRS (Air )	bag)		
IHKA/IHKR	(AC/heate	r)	
IKE/IKI/K	OMBI		
PAG	E UP	PAGE	DOWN
HOME	BACK	PRINI	HELP
Start)	•	×.	1 20:07

ECU IDEN	TIFY
Airbag [ZAE] sy Part Number Hardware Number Software Number Diagnosis index Coding index Bus index Data	stem 8352763 01 46 01 01 00 50/92
OK	PRINI
rt) D	济 國 17:

# Air Bag

### <u>HOME</u>

Click **§RS (Air bag)**] button. The screen will display the information on ECU version of air bag system, as shown in figure to left.

2	ELECT DIA	G. FUNCTIO	ON CON
Read fault	t memory		
Clear fau	lt memory		
Identifica	ation		
			5
6			e.
			ŝ
5			ŝ
			-
-			
PAG	E UP	PAGE	E DOWN
HOME	BACK	PRIMI	HELP
Start) 📭	•	×	E 17:27

SELEC	T DIAG.	FUNCTION	
М	lo Fault	Code	
OK		PRI	NI
Start) 📭		-6-	<b># 16:</b> 37

## Read Fault Memory

<u>HOME</u>

Click [**Read fault memory**] button, the screen will display as shown in figure to left.

	ELECT DIA	G. FUNCTIO	0N
Read fault	tmemory		
Clear fau	lt memory		
Identifica	ation		i.
8			6
3			ŝ
			ŝ
2			
-			
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 다	•	×	E 17:27

SELECT DIAG. FUNCTION		
Are you sure to	clear fault memory?	
YES	NO	
tart) D	-ió: 🛲 16:40	

## **Clear Fault Memory**

<u>HOME</u>

Click [Clear fault memory] button, the screen will display as shown in figure to left.

<	
Trouble code has b	been erased.
OK	

:	ELECT DIA	G. FUNCTIO	0N
Read faul	tmemory		
Clear fau	lt memory		
Identific	ation		, in the second s
-			e
			8
5			2
PAG	קוז ק	DACE	. DUIM
ING		ING	T
HOME	BACK	PRINT	HELP
Start) 🗖	•	<b>`</b>	E 17:27

ECU IDENI	ECU IDENTIFY		
Airbag [ZAE] syst Part Number Hardware Number Software Number Diagnosis index Coding index Bus index Data	tem 8352763 01 46 01 01 00 50/92		
OK	PRIMI		
itart) 📭	<u>ò</u> : ₩ 17:31		

## Version No.

### <u>HOME</u>

Click **[dentification**] in the function menu. The screen will display the information on ECU version of air bag system, as shown in figure to left.

5	ELECT DIA	G. FUNCTIO	0N
Read faul	t memory		
Clear fau	lt memory		
Identific	ation		
			5
0			ŝ
1			
-			
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 📭	•	<u>``</u>	E 17:27

2	SELECT DL	AG. SYSTEM	4
DME (Engi	ne)		
EGS (Tran:	smission)		2
ABS (Anti.	lock brake	)	\$
SRS (Air 1	bag)		
IHKA/IHKR	(AC/heate	r)	
IKE/IKI/K	DMBI		
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 다	•	×	1 E 10:07

ECU IDENI	IFY
IHKA E38 Part Number Hardware Number Software Number Diagnosis index Coding index Bus index Data	3353432 31 36 00 00 37 30/31
OK	PRIM
Start) 🕞	× 📾 09:57

### Air Conditioning/Heater HOME

Click [IHKA/IHKR (AC/Heater)] button. The screen will display the information on ECU version of air conditioning/heater system, as shown in figure to left.

	ELECT DIA	G. FUNCTIO	N
Read fault	tmemory		
Clear fau	lt memory		
Data strea	зш		
Identifica	ation		
÷			
÷			
3			
g.		1	
PAGI	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 📭	•	×	 ₩ 09:57

### Read Fault Memory

<u>HOME</u>

Click  $\left[ \mathbf{OK}\right]$  button, the screen will display as shown in figure to left.

	TROUBL	E CODE	
6 Str IH	atificatio KA	n flap mot	or, left,
ID 5 1 0	59 undefin	ed.	
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRINT	HELP
Ctout) E		*	

Click [Read fault memory] button, the screen will display as shown in figure to left.

\$	ELECT DIA	G. FUNCTIO	๗
Read fault	tmemory		
Clear fau	lt memory		
Data strea	300		8
Identifica	ation		
1			÷
			2
			\$
PAGI	C UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 📭	•	×	E 09:57

SELECT DIAG. FUNCTION		
Are you sure to c	lear fault memory?	
YES NO		
Start) 📭	⊥ ☆  16:40	

## **Clear Fault Memory**

<u>HOME</u>

Click [Clear fault memory] button, the screen will display as shown in figure to left.

SELECT DIAG.	FUNCTION
Trouble code has	been erased.
08	
(Start) 📭	🏠 🖼 16:43

\$	ELECT DIA	G. FUNCTIO	N
Read fault	tmemory		
Clear fau	lt memory		
Data strea	am		
Identifica	ation		
			2
ŝ			
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 🖸	•	×	09:57

	SELECT D	ATA ITEM	1
Outside te	mperature	sensor	(Via K-bus)
Engine tem	perature	(Via K-b	us)
Inner temp	. sensor		
Evaporate	sensor		
Ventilatio	n tempera	ture sen	sor Left
Ventilatio	n tempera	ture sen	sor Right
Heat excha	nger sens	or Left	
Heat excha	nger sens	or Right	
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
(Start) 📭		×.	Bes 09:57

#### **Read Data Stream**

## <u>HOME</u>

Click [Data stream] button, the screen will display as shown in figure to left.

	SELECT D	ATA ITEM	
Stratificat:	ion pote	ntiometer	Front
Stratificat:	ion pote	ntiometer	: Rear
Blower Left			
Blower Righ	t		
Blower cont	rol volt		
AUC heating			
AUC sensor			
Clamp 30			
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		ġ.	BES 09:57

2	SELECT D	ATA ITEM	
Sensor sup	ply		
Sensor blo	wer		
Rear compa	rtment sw	itch	
Outside te	mperature	sensor	(Via K-bus)
Inner temp	. sensor		
Temperatur	e control	Left	
Temperatur	e control	Right	
Guided con	trol Left		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		×.	09:57

	SELECT D	ATA ITEM	1
Guided cont	rol Righ	t	1
Engine spee	ed .		
Heat exchar	iger sens	or Left	
Heat exchar	iger sens	or Right	\$
Heat exchar	iger rate	d temp. L	eft
Heat exchan	iger rate	d temp. R	ight
Heat exchar	iger set	value Lef	t
Heat exchar	iger set	value Rig	ht
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		×.	Beg 09:57

0	SELECT D	ATA ITEM	1
Clamp 58g	(Via K-bu	s)	
Temperatur	e set Lef	t	
Temperatur	e set Rig	ht	
AC switch			
AUC			:
Air circul	ation		
Rear windo	w defogge	r	
Rest heati	ng		
PAGE UP	PAGE	DOWN	OR
HOME	BACK	PRINI	HELP
Start 📭		<u>ک</u>	Beg 09:57

	SELECT D	ATA ITEM	ļ
Defrost			
Above			
Center, lef	t		
Below, left			
Auto, left			
Center, rig	nt		
Below, righ	t		
Auto, right			
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭	-	×	B= 09:57

0	SELECT D	ATA ITEM	
Fresh air	flap		1
Defrost fl	lap		
Air circul	ation fla	р	
Rear compa	artment fl	ap	
Stratifica	ation flap	, Left	
Stratifica	ation flap	, Right	
Ventilatio	m flap, L	eft	
Ventilatio	m flap, R	ight	
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		×.	B 09:57

1	SELECT D	ATA ITEN	1
Footwell fla	ap Left		
Footwell fla	ap Right		
Defogger rei	Lay		
Rear defogge	er relay	é	
DME-AC signa	al		
DME-KO signa	al		
AC compress	or		
Auxiliary fo	m pos.l		
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		<u>نې</u>	₩ 09:57

	SELECT D	ATA ITE	9
Water valve	, Left		ż
Water valve	, Right		i.
Auxiliary w	ater pum	р	
Park heatin	g Wake u	p line	8
Locking val	ve		
Safety car			
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRIN	HELP
Start 📭		ġ.	BE 09:57

\$	SELECT DIA	G. FUNCTIO	010
Read faul	t memory		
Clear fau	lt memory		
Data stre	300		
Identific	ation		
			8
ŝ			5
PAG	E UP	PAGE	C DOWN
a 6800-94000	 	5-10-000-000-00	
HOME	BACK	PRIMI	HELP
Start) 🕞		¢.	09:57

Q	SELECT D	ATA ITEM	
Outside te	mperature	sensor	(Via K-bus)
Engine tem	perature	(Via K-b	us)
Inner temp	. sensor		
Evaporate	sensor		
Ventilatio	n tempera	ture sen	sor Left
Ventilatio	n tempera	ture sen	sor Right
Heat excha	nger sens	or Left	
Heat excha	nger sens	or Right	
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRIM	HELP
Start) 📭		×.	Beg 09:57

Click [**Data stream**] button, the screen will display as shown in figure to left.

0	SELECT D	ATA ITEM	1
Outside te	mperature	sensor (	Via K-bus)
Engine tem	perature	(Via K-bu	IS)
Inner temp	). sensor		
Evaporate	sensor		
Ventilatio	n tempera	ture sens	or Left
Ventilatio	n tempera	ture sens	or Right
Heat excha	nger sens	or Left	
Heat excha	nger sens	or Right	
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
(Start) 📭		X	 ፼∰ 09:58

Click the items you want to see, e.g. **Dutside** temperature sensor (Via K-bus)], [Engine temperature (Via K-bus)], [Inner temp. sensor] and [Evaporate sensor]. The screen will display as shown in figure to left.

	DATA	STREAM		
Outside te sensor (Vi	mperature .a K-bus)	K 38	-45	c
Engine ten -bus)	perature	(Via K	0 C	
Inner temp	. sensor		10.0	c
Evaporate	sensor	8	10.0	c
PAGE UP	PAGE	DOWN	GR	APHIC-1
HOME	BACK	PRIN	т	HELP
Start) 📭		3	×	₩ 09:58

Click [**OK**]. The screen will display the real-time values of the selected items, as shown in figure to left.

#### Button descriptions:

[GRAPHIC-1]: to display the waveform of an active data.

[**PRINT**]: to print out the test result.

	DATA S	STREAM	
Outside ter sensor (Vi: -44	operature a K-bus)		C
-45			
-46	100000000		Territor began positive d'en
PAGE UP	PAGE	DOWN	GRAPHIC-2
PAGE UP	PAGE BACK	DOWN PRIN	GRAPHIC-2

Click **GRAPHIC-1**]. The screen will display the waveform for one data stream item. See figure to left.

#### Button descriptions:

[GRAPHIC-2]: to display tow data steam waveforms.

0	DATA	STREAM		-X
Outside te sensor (Vi -44	mperature .a K-bus)	3	c	
-45				-
Engine ten -bus) 0 -1	perature	(Via K i	c	
PAGE UF	PAGE	DOWN	DIGITAL	
HOME	BACK	PRIN	T HELP	
Start 📭		ć	ל ביים 09:5	58

Click **[GRAPHIC-2**] to display waveforms of two data stream items. It is convenient to make comparison between two correlative data stream items. See figure to left.

	DATA	STREAM		
Outside te sensor (Vi	mperatura la K-bus)		-45 1	С
Engine ten -bus)	perature	(Via K	0 C	
Inner temp	). sensor	8	10.0	c
Evaporate	sensor	8	10.0	c
PAGE UP	PAGE	e down	GRA	APHIC-1
HOME	BACK	PRIN	n	HELP
(m			<del></del>	

Click [**DIGITAL**] in the interface, the screen will display the real-time value of the data stream again, as shown in figure to left.

2.	SELECT D	ATA ITEM	1
Outside te	mperature	sensor	(Via K-bus)
Engine tem	perature	(Via K-b	us)
Inner temp	. sensor		
Evaporate	sensor		
Ventilatio	n tempera	ture sen	sor Left
Ventilatio	n tempera	ture sen	sor Right
Heat excha	nger sens	or Left	
Heat excha	nger sens	or Right	
PAGE UP	PAGE	DOWN	OK
HOME	BACK	PRINI	HELP
Start) 📭		×	B 09:57

2	ELECT DIA	G. FUNCTIO	010
Read faul	timemory		
Clear fau	lt memory		8
Data stre	300		
Identific	ation		
Ŷ			
			2
5			ŝ
3			
		1	
PAG	E UP	PAGE	C DOWN
HOME	BACK	PRINI	HELP
Start) 다		¢.	E 09:57

ECU IDENI	ECU IDENIIFY				
IHKA E38 Part Number Hardware Number Software Number Diagnosis index Coding index Bus index Data	3353432 31 36 00 00 37 30/31				
OK	PRIMI				
Start) 🕞	× 📾 09:57				

#### Version No.

## <u>HOME</u>

Click **[dentification**] in the function menu. The screen will display the information on ECU version of air conditioning/heater system, as shown in figure to left.

:	ELECT DIA	G. FUNCTIO	N
Read faul	tmemory		
Clear fau	lt memory		
Data stre	зw		
Identific	ation		
-			
( (1993)	0.603	10000	
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 🗖	•	×	₩ 09:57

	SELECT DL	AG. SYSTEM	
DME (Engi	ne)		
EGS (Tran:	mission)		Ŷ
ABS (Anti:	lock brake	)	
SRS (Air H	oag)		
IHKA/IHKR	(AC/beate	r)	
IKE/IKI/K(	DMBI		
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 다	,	×	_ ₩3 10:07

\$	SELECT DIA	G. FUNCTIO	0N
uto Diag	nosis		
anual Se	rvice		
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRIMI	HELP
Start) 🗖	}	×.	 ₩ 15:06

# Instrument Panel

<u>HOME</u>

ECU IDENTIFY		
KOM instrument c Part Number Hardware NO. Software NO. Diagnosis index Coding index Bus index Data CAN index Modification	luster, Basis CAN 6914913 19 18 36 07 12 47/01 05 42	
OR	PRIMI	
itart) 📭	 ⊘: ፼∰ 15:06	

Click **Auto Diagnosis**] button. The screen will display the information on ECU version of instrument panel system, as shown in figure to left.

:	ELECT DIA	G. FUNCTIO	0N
Read faul	t memory		
Clear fau	lt memory		1
Service R	eset		
Identific	ation		2
1			
÷			
5			
3			
		1	
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 🗖	•	×.	

		TROUBL	e code	
5	Coolant	tempe	rature ser	nsor
-				i.
ļ				
			1	
	PAGE UP		PAGE	: DOWN
HOM	E I	BACK	PRIM	HELP
Start	) 🗣		<u>ې</u>	₩ 15:06

### Read Fault Memory

## <u>HOME</u>

Click [Read fault memory] button, the screen will display as shown in figure to left.

:	ELECT DIA	G. FUNCTIO	0N
Read faul	t memory		
Clear fau	lt memory		8
Service R	eset		
Identific	ation		2
1			8
			ŝ
			ŝ
-			
PAG	E UP	PAGE	: DOWN
HOME	BACK	PRIMI	HELP
Start) 📭	•	<u>نې</u>	 ₩ 15:06

SELECT DIAG. FUNCTION		
Are you sure to cl	ear fault memory?	
YES NO		
Start) 📭	资 🗃 16:40	

#### Clear Fault Memory

<u>HOME</u>

Click [Clear fault memory] button, the screen will display as shown in figure to left.



	ELECT DIA	G. FUNCTIO	0N
Read fault	t memory		
Clear fau	lt memory		
Service Re	eset		8
Identifica	ation		2
			ŝ
i.			ŝ
a			
PAGI	E UP	PAGE	: DOWN
HOME	BACK	PRINI	HELP
Start) 📭	•	×	

	ACTIVATI	ION TEST	
Oil servi	ce		
Time insp	ection		
Distance :	inspection		
		é	5
÷			ŝ
2			
PAG	C UP	PAGE	DOWN
PAG	E UP BACK	PAGE PRIMI	DOWN

## Service Reset

## <u>HOME</u>

0;	ACTIVATIO	n test		2
End of t panel.	he resetting	of the	instrument	1000
(Start) [	OK D		F778 15•0	6

The operation procedures for the above three items are the same. Now we take **[Oil service]** as an example to describe the procedure.

Click [**Oil service**]. X-431 starts to reset the oil service indicator. When the resetting is completed, the screen will display the message as shown in figure to left.

	ACTIVAT	ION TEST	
Oil servi	ce		
Time insp	ection		
Distance :	inspection		
		~	
			2
-			
3			
-			
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 🗖	•	<b>`</b>	E 15:06

	ELECT DIA	G. FUNCTIO	0N
Readifault	tmemory		
Clear fau	lt memory		
Service Re	eset		
Identifica	ation		
1			8
i.			<u></u>
3			
PAGI	C UP	PAGE	DOWN
HOME	BACK	PRINT	HELP
Start) 📭	,	×	E 15:06

ECU IDEMTIFY KOM instrument cluster, Basis CAN Part Number 6914913 Hardware NO. 19 Software NO. 18 Diagnosis index 36 Coding index 07 Bus index 12 Data 47/01 CAN index 05 Modification 42		
tart) 📭	 	

#### Version No.

#### <u>HOME</u>

Click **[dentification**] in the function menu. The screen will display the information on ECU version of instrument panel system, as shown in figure to left.

:	ELECT DIA	G. FUNCTIO	nn
Read faul	t memory		
Clear fau	lt memory		×.
Service R	eset		
Identifica	ation		5.
5-			-
			8
2			0
9			
PAGE UP		PAGE DOWN	
HOME	BACK	PRIM	HELP
Start 📭	•	×.	E 15:06

2	SELECT DL	AG. SYSTEM	1
DME (Engi	ne)		
EGS (Tran	smission)		1
ABS (Anti	lock brake	)	
SRS (Air )	bag)		
IHKA/IHKR	(AC/heate	r)	
IKE/IKI/K	OMBI		
PAGE UP		PAGE DOWN	
HOME	BACK	PRIMI	HELP
Start)	•	×.	1 20:07

\$	ELECT DIA	G. FUNCTIO	0N
uto Diag	nosis		
anual Sei	rvice		
		1	
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIM	HELP
Start) 다	•	<u>ي</u>	E 15:06

Click [IKE/IKI/KOMBI] button, the screen will display as shown in figure to left.

:	SELECT DIA	G. FUNCTIO	NN
)il Reset			
Service R	eset		8
PAG	E UP	PAGE	DOWN
HOME	BACK	PRIMI	HELP
Start) 🗖	•	×.	 ₩ 15:06

#### Manual Service Reset

<u>HOME</u>

Click [Manual Service] button, the screen will display as shown in figure to left.

SERVICE	: FUNCTION
End of the resettir panel.	ng of the instrument
	OK
(Start) 📭	🔆 📾 15:06

The operation procedures for the above two items are the same. Now we take **[Oil Reset]** as an example to describe the procedure.

Click [**Oil Reset**]. X-431 starts to reset the oil service indicator. When the resetting is completed, the screen will display the message as shown in figure to left.

IKE/IKI/K	OMBI		
IHKA/IHKR	(AC/heate	r)	
SRS (Air )	bag)		
ABS (Anti	lock brake	)	
EGS (Tran	smission)		
	nej		

	CAR CI	ASSIS	
3'/Z1_E30			
3'/Z3_E36			
3'_E46			
5'_E28			
5'_E34			
5'_E39			
6'_E24			
7'_E23			
PAGE UP		PAGE DOWN	
HOME	BACK	PRIMI	HELP
Start) 📭		×.	₩ 09:58