

ADVANCED DIAGNOSTICS

Unlocking Technology

Subaru

(Version 2.2)



World Leaders In Automotive Key Programming Equipment

www.advanced-diagnostics.com





CONTENTS

	PAGE
A APPLICATIONS	3
B DIAGNOSTIC SOCKETS/OBD PORTS SUBARU	4
C GENERAL OPERATION	5
D SPECIAL FUNCTIONS	6-7
E TIPS & HINTS	8
F REMOTE CONTROL PROGRAMMING	9 -10



WWW.ADUSA.US

Applications are continually updated as vehicles are constantly added.

To ensure you have the very latest information,
the applications list is available via Info Quest - an online portal
containing vehicle technical data for key & remote programming
for all manufacturers.

To view the latest vehicle applications please visit
Info Quest at

<http://iq.advanced-diagnostics.co.uk/>

Subaru Software

ADS127

Subaru

DIAGNOSTIC SOCKETS/PORTS

B

SUBARU



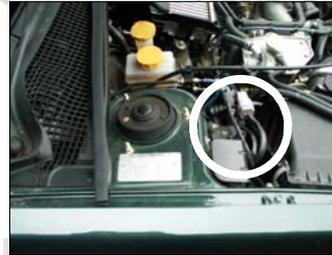
IMPREZA



LEGACY



LEGACY—9 PIN



FORESTER



JUSTY



IMPREZA—2008



TRIBECA

WWW.ADUSA.US

GENERAL OPERATION

There are two types of systems fitted to Subaru vehicles that can generally be identified by the model year, however this is not always the case. Detailed below is a guide to help you determine which system is fitted.

> 2000

This system can normally be identified by having a keypad in the glovebox.

These vehicles can also be fitted with a Sigma alarm that have a separate remote control.

The tester cannot be used to program these remote controls. Programming of the remotes can only be performed using the Sigma alarm programmer.

2000 >

On these systems the keypad is now located in the fuse box and is only required if the alarm needs de-activating. The key is now integrated with the alarm/central locking remote control in the head of the key.

The remote control is programmed manually (Refer to the Remote Programming section F). Also for UK vehicles please take note of the special instructions in the Tips & Hints section.

Notes:

1. On vehicles around 2000, both systems might have to be tried to determine the correct system even if the system physically represents the system described above.
2. When programming keys with tester the alarm must be disarmed.
3. Only **Genuine** Subaru transponders must be used when programming keys.

FUNCTIONS AVAILABLE

ECU IDENTIFICATION

PROGRAM KEYS

General Subaru Immobiliser info.

With the vehicle stopped and the ignition off, there is a red LED on the dashboard which flashes as an anti theft deterrent with a 0.2 second on time and a 2 second off time. This indicates the vehicle is in an immobilised state. If you insert the ignition key and start the engine, the LED will remain off, indicating no faults are found.

If an attempt is made to start the engine with an incorrect non programmed key, the engine will start but stop after 2 seconds and the check engine light will flash- engine cannot be subsequently restarted. If the read only memory plugs (on early vehicles) are connected, the engine control unit will show code 53- using the correct transponder will allow the vehicle to be started and the engine warning light will remain on (because code 53 is stored) until the read memory plugs are disconnected.

The ignition key utilises a transponder chip which has no battery inside, when the key is turned on an engine request signal is sent from the engine ECU to the immobiliser ECU. The immobiliser control unit energises the antenna and amplifier situated around the ignition key barrel. The antenna sends a frequency signal of 125 KHz to the transponder chip which replies with an ID code. This code is then sent to the immobiliser ECU which sends it back to the engine ECU and a conformation signal, if this signal code is the same as is stored within the engine ECU then the engine function is enabled. All this process takes less than 100 milliseconds. When the ignition is switched off, the rolling code will be updated to a random value and the engine ECU will send this new code via it's communication line to the immobiliser ECU. In this way, the engine control unit is ready to receive the correct code next time the Immobiliser sends it.

If a new Engine or Immobiliser control unit is fitted or if the keys are replaced, the system must be initialised using the tester and appropriate software. Up to four keys may be programmed using the tester and code 53 is "incorrect transponder code detected"

Specifications

Rolling code. Input of 10 incorrect codes will cause the control unit to shut down for 10 seconds. A combination scan of all available codes will take approx 432 hours

Antenna uses inductive energy transmission (passive transponder)

Maximum code pick up distance from key approx 3cm

Response time less than 100ms

System current draw 15ma (shut down state)

30ma during code transmission

Power supply 6 - 16v d.c.

Engine control unit EGI situated lower steering column

Antenna frequency 125 KHz

Immobiliser control unit Siemens SWK4690 situated lower steering column or passenger floor.

SPECIAL FUNCTIONS

SUBARU—PRE 2000 MY SYSTEMS

PROGRAM KEYS

VEHICLE SELECTION

+ LANCIA
+ MITSUBISHI
+ NISSAN
+ PEUGEOT
+ ROVER
+ SUBARU

VEHICLE SELECTION

EURO
USA

VEHICLE SELECTION

-> 2000
2000 ->
5 VOLT COMMS /9PIN
JUSTY

SWITCH IGNITION ON

PRESS ENTER KEY

SUBARU
IMMOBILISER

PRESS ENTER KEY

DIAGNOSTIC MENU

ECU IDENTIFICATION
SPECIAL FUNCTIONS

PRESS ENTER KEY

PROGRAM KEYS

DIAGNOSTIC MENU

PROGRAM KEYS

PROGRAM KEYS

KEY PROGRAMMING

PLEASE WAIT

PRESS ENTER KEY

KEY PROGRAMMING

IGNITION OFF
WAIT 2 SECONDS
IGNITION ON

PRESS ENTER TO CONTINUE

COMPLETE

PRESS ENTER TO CONTINUE

NOTE : ON THIS SYSTEM,
ONLY 1 KEY CAN BE
PROGRAMMED.

FOR ADDITIONAL KEYS
CLONE THE KEY.

SPECIAL FUNCTIONS

SUBARU—POST 2000 MY SYSTEMS

PROGRAM KEYS

VEHICLE SELECTION

+ LANCIA
+ MITSUBISHI
+ NISSAN
+ PEUGEOT
+ ROVER
+ SUBARU

VEHICLE SELECTION

EURO
USA

VEHICLE SELECTION

-> 2000
2000 ->
5 VOLT COMMS /9PIN
JUSTY

VEHICLE SELECTION

TYPE 1
TYPE 2

DIAGNOSTIC MENU

ECU IDENTIFICATION
SPECIAL FUNCTIONS

PRESS ENTER KEY

SWITCH IGNITION ON

PRESS ENTER KEY

PROGRAM KEYS

DIAGNOSTIC MENU

PROGRAM IMMOBILISER

PROGRAM KEYS

PLEASE INSERT
FIRST KEY

PRESS ENTER KEY

PROGRAM KEYS

PLEASE WAIT
SECURITY CODE 1 SENT

PROGRAM KEYS

PLEASE WAIT
SECURITY CODE 2 SENT

PROGRAM KEYS

PLEASE WAIT
ERASING KEYS

PROGRAM KEYS

PLEASE WAIT
STORING KEY 1

PROGRAM KEYS

PROGRAM KEYS

WOULD YOU LIKE TO
PROGRAM KEY No 2

OK=ENTER CLEAR=BACK

PROGRAM KEYS

PLEASE TURN
IGNITION OFF

PROGRAM KEYS

PLEASE INSERT
KEY No 2
AND TURN ON
IGNITION

PROGRAM KEYS

PLEASE WAIT
STORING KEY 2

PROGRAM KEYS

REGISTERING KEYS

PROGRAM KEYS

KEY REGISTRATION
COMPLETE

PRESS ENTER KEY

TIPS & HINTS



GENERAL

1. When programming keys with tester the alarm must be disarmed.
2. Only **Genuine** Subaru transponders must be used when programming keys.
3. The alarm system must always be disarmed before programming.
4. Vehicles with no communication must have the engine cranked for a few seconds before initialising communication.
5. A Maximum of 4 keys can be programmed
6. If the tester only powers up with the ignition on, this is not a fuse fault and is normal for some vehicles.
7. On vehicles fitted with a Sigma alarm that have a separate remote control, programming of the remotes can only be performed using the Sigma alarm programmer.
8. On >2000 models only 1 key can be programmed into the system. If more keys are required, the existing key must be cloned using the AD900pro.

Procedure to modify and program a new remote key on Subaru models:

NOTE: New keys supplied by Subaru UK are 2 button variety and are incorrect in frequency for UK vehicles (which are 1 button). The following procedure must be followed to modify the remote key:

1. Unscrew the cross-head screw from new (2 button key)
2. Cut-off the right hand button (viewed from above)
3. Discard the circuit board
4. Open new remote key package (part number SACC3507)
5. Insert new circuit board and new 1 button cover for key
6. Re-fit cover
6. Program manually.

FORESTER 1999-2002 WITH AUTO TRANSMISSION

Only 1 key can be programmed on these models, unless you disconnect the GREEN CONNECTOR of the TCU (Transmission Control Unit).

PRECAUTIONS

IMPORTANT : PLEASE ENSURE ALL PRECAUTIONS ARE OBSERVED AS INDICATED AT THE FRONT OF THE OPERATING MANUAL.

IN PARTICULAR : For vehicles fitted with STOP/START technology, the battery leads must not be shorted together when the battery is disconnected as this can lead to damage to the car and potential personal injury.

REMOTE PROGRAMMING



Legacy 2004 on

- 1) Remove the keyless transmitter from the ignition switch.
- 2) Remove the lower trim cover at driver's side, then connect the registration connectors. (1 pole white connector)
- 3) Press the door lock switch (1) located under the power window main switch to UNLOCK. (Make sure the room light blinks and buzzer sounds, and then system is in registration mode.)
- 4) While pressing the button of keyless transmitter to be registered twice with door lock switch pressed to UNLOCK. (Button for LOCK, UNLOCK and TRUNK are acceptable)
- 5) When the registration is completed normally, the door lock actuator will lock/ unlock. If the lock/unlock operation is not carried out, repeat the procedure 4).

- When pressing the keyless transmitter button, slowly press for first and second (press longer for second) to check operation of door lock actuator.
- Do not press the button of keyless transmitter more than twice.

- 6) Repeat the steps 4) if there is an additional keyless transmitter to be registered.
- 7) Pull out the registration connector, and install the lower trim cover at driver's side.

If the above does not work you will need to fit a Sigma kit to the remote:

New board for the one button remote, it comes as a kit with a new cover (one button hole) and you have to cut the 2nd rubber button off the rubber pad so it can fit in the new one button cover, and put in the one button board.

Now you need to program it in:

Close all the doors and bonnet

Find the Key Pad under a cover to the right of the steering wheel

Enter the over ride code *17856 (car should bleep)

Enter *91 (car should bleep) enter star and the no. of remotes to be programmed (eg *2) followed by # .

The car will bleep, press remote, car will bleep, press other remote and car will bleep.

NOTE:

- The transmitter can be registered only when the door lock switch is remain pushed to UNLOCK.
- Continuing to press the door lock switch to UNLOCK again allows to be registered although the door lock switch is released for once.
- When adding the keyless transmitter, re-registration of keyless transmitter which was already registered is necessary.

CLEARING REMOTES

- 1) Remove the keyless transmitter from ignition switch.
- 2) Remove the lower trim cover at driver's side, then connect the registration connectors. (1 pole white connector)
- 3) Press the door lock switch located under the power window main switch to LOCK. (Make sure the room light blinks and buzzer sounds, and system becomes in clear mode.)
- 4) While pressing door lock switch to LOCK, insert and remove the key on ignition switch 10 times within 10 seconds.
- 5) When the clearing is completed normally, the door lock actuator will lock/unlock. If the lock/unlock operation is not carried out, repeat the procedure 4).
- 6) Pull out the registration connector, and install the lower trim cover at driver's side.

NOTE:

- The transmitter can be cleared only when the door lock switch is remain pushed to LOCK.
- Continuing to press the door lock switch to LOCK again allows to be cleared although the door lock switch is released for once.

Type 1:

Connect the two white service connectors together behind kick panel drivers or passengers side, then press and hold down the central locking locked button in the car. Press the locked button twice on the remote to be programmed, you will hear the locks cycle. You will have to do this for all remotes that you want as old ones will be removed. Disconnect service connectors and test remotes.

Other types are shown on the next page.

REMOTE PROGRAMMING



BAJA (2003 to 2005) IMPREZA (2002 to 2004)

FORESTER (2001 to 2004) LEGACY/OUTBACK (1999 to 2004)

Synchronization Procedure

1. Press remote LOCK or UNLOCK button 6 times.
2. Synchronization should be complete, check operation

Programming

1. Press remote UNLOCK button to deactivate alarm.
2. Open Drivers door.
3. Enter vehicle and close drivers door.
4. Within 15 seconds turn ignition ON and back to LOCK 10 times.
NOTE : Horn will sound to indicate programming mode.
5. Within 40 seconds open drivers door and closed drivers door and press the lock or unlock button on one of the remote controls.
NOTE : Horn will sound 2 times to indicate it is programmed.
6. Repeat for all additional remote controls up to a maximum of 4.

IMPREZA (1999 to 2001)

FORESTER (1999 to 2000)

Programming

1. Open Drivers door and switch ignition ON.
2. Press and hold the programming button (Located under steering wheel)
3. After 15 seconds doors will lock and unlock 3 times.
4. Press the LOCK button on one of the remote controls.
5. After 15 seconds doors will lock and unlock 3 times.
6. Press the LOCK button on each of the other remotes that need to be programmed. The doors will lock and unlock once for each one programmed.
7. After programming release the programming button.

LEGACY/OUTBACK (2003 to 2009)

FORESTER (2005 to 2009)

IMPREZA (2005 to 2007) B9 TRIBECA (2006 to 2009)

BAJA (2006)

Programming

1. Press remote UNLOCK button to deactivate alarm.
2. Open Drivers door.
3. Enter vehicle and close drivers door.
4. Within 15 seconds turn ignition ON and back to LOCK 10 times.
NOTE : Horn will sound to indicate programming mode.
5. Within 40 seconds open drivers door and closed drivers door and press the lock or unlock button on one of the remote controls.
NOTE : Horn will sound 2 times to indicate it is programmed.
6. Repeat for all additional remote controls up to a maximum of 4.
7. Once last transmitter is programmed remove key from ignition.
NOTE : Horn will sound 3 times to indicate end of programming.

LEGACY 2004 on

1. Remove the keyless transmitter from the ignition switch.
2. Remove the lower trim cover at driver's side, then connect the registration connectors. (1 pole white connector)
3. Press the door lock switch (1) located under the power window main switch to UNLOCK. (Make sure the room light blinks and buzzer sounds, and then system is in registration mode.)
4. While pressing the button of keyless transmitter to be registered twice with door lock switch pressed to UNLOCK. (Button for LOCK, UNLOCK and TRUNK are acceptable)
5. When the registration is completed normally, the door lock actuator will lock/ unlock. If the lock/unlock operation is not carried out, repeat the procedure 4).

• When pressing the keyless transmitter button, slowly press for first and second (press longer for second) to check operation of door lock actuator.

- Do not press the button of keyless transmitter more than twice.

6. Repeat the steps 4) if there is an additional keyless transmitter to be registered.
7. Pull out the registration connector, and install the lower trim cover at driver's side



AD900Pro

Transponder Cloning

The most advanced key transponder cloning tool in the market - that reads, writes, copies, a wide range of automotive transponders worldwide. Complimenting the AD100Pro / MVPPro.



AD600

Code Wizard Pro
PINCODE Generator

AD600 is a software program that supports various vehicle manufacturers and provides the ability to generate immobiliser PINCODES, mechanical key codes including dealer tool security codes.



AD35

Remote Control Tester

AD35 is an innovative remote control tester developed to assist with the diagnosis of all types of (IR) Infra Red & (RF) Radio Frequency remote controls for all makes & models.